



WIS@key

2024

HALF-YEAR REPORT

TABLE OF CONTENTS

INDEX

Page

1. CEO Letter to Shareholders	2
2. About WIS@key	10
3. Management Discussion & Analysis	12
4. Our Subsidiaries	20
4.1 SEALSQ	20
4.2 WIS@Sat.Space	31
4.3 WIS@ART	41
4.4 SEALCoin	49
4.5 WIS@ID	55
5. Financial Report	57

1. LETTER TO SHAREHOLDERS

1.1. CEO LETTER TO SHAREHOLDERS

Dear WISeKey Shareholders,



I am pleased to share with you the progress WISeKey has made in the first half of 2024. As we continue to drive innovation and growth, we have taken significant steps towards transitioning into a recurring revenue business while maintaining operational efficiency and technological advancement.

WISeKey operates as a holding company of several distinctive operational companies, each covering a full spectrum of

WISeKey-related technologies. Established in 2022, this structure currently comprises the following subsidiaries:

- **SEALSQ Corp (NASDAQ: LAES):** Formerly known as WISeKey Semiconductors; a leader in semiconductor, PKI, and Post-Quantum technology development.
- **WISeSAT.Space:** Specializes in space technology using Picosatellites.
- **WISe.ART:** Dedicated to the Trusted Blockchain NFT segment.
- **SEALCOIN AG:** Machine to Machine Token and Decentralized Physical Infrastructure Network DePIN platform.
- **WISeID:** Focuses on the Root of Trust and PKI segment.

Each subsidiary operates independently with a specific focus on its area of R&D and expertise, integrating their technologies into the WISeKey platform. This structure allows us to focus resources on the most promising opportunities and diversify revenue sources, as well as create cross-pollination between R&D activities.

1.2. H1 2024: IN REVIEW

Key Developments and Initiatives

During the first half of 2024, WISeKey has expanded the reach of its subsidiaries by establishing strategic alliances. For WISeSAT, a **strategic agreement with the Swiss Army** and the **planned launch of a special-purpose satellite** in Q1 2025, along with the **installation of a WISeSAT antenna at the EPFL**, will allow the Swiss Army to test communication with the satellite and develop added-value services. This first launch, if successful, will pave the way for future launches, increasing Swiss installations.

WISeKey also began discussions with several sources of funding in the space industry, including applications for the offset compensation program in Switzerland.

In terms of our blockchain strategy, WISeKey has advanced with the previously announced

Web 3.0 Platform WISe.ART, **now including over \$32 million worth of digitalized assets**. Additionally, WISeKey has **incorporated SEALCOIN AG as a special-purpose vehicle** with a commitment of investment by Hedera. SEALCOIN is a Decentralized Physical Infrastructure Network (DePIN) technology project in development by WISeKey with Hedera and the Hashgraph Association in Switzerland. This project began in December 2023 at Hedera's desire to use SEALSQ semiconductors with the Hedera blockchain ledger for secure electronic authentication via a dedicated utility token. The proof-of-concept ("PoC") was successfully executed with SEALSQ semiconductors, and as a result, the SEALCOIN DePIN technology platform and token are now in development.

Progress in Quantum-Resistant Technology and Customization

SEALSQ made substantial progress in the first six months of 2024. The **launch of its new range of Quantum Resistant, or Post-Quantum Secure Chips, the QS7001 and QVault TPM, is planned for as early as Q4 2024**. The QS7001 engineering samples are being produced and

expected to be ready to order by Q4 2024, while the TPM version should be ready by the end of the year.

These upcoming secure chips are based on a RISC-V Quantum Resistant and CCEAL5+

hardware platform, offering CC EAL 5+ certified security and optimized for Kyber and Dilithium quantum-resistant algorithms. The QS7001 is delivered open for customers to develop and load their own firmware, while the “QVault TPM” features a pre-provisioned FIPS 140-3 and TCG certified Trusted Platform Module stack.

SEALSQ has also initiated a strategic move to leverage the new chip’s powerful hardware architecture by approaching several large electronic manufacturers to discuss **developing custom quantum-resistant chips derived from the QS7001** and integrating application-specific customer requirements. This strategic step in its commercial and industrial strategy is paving the way for a significant new pipeline of business opportunities and revenues. This initiative aligns with SEALSQ’s project to build a Semiconductor Design and Personalization center, fueling the company’s upcoming customization activity.

WISeKey also announced, after a meeting held at the University of Murcia (UMU), attended by the Secretary of State for Telecommunications and Digital Infrastructures, María González Veracruz, the Rector Magnificus, José Luján,

Professor Antonio Skarmeta, and representatives from leading Murcian companies, a significant step was taken towards the consolidation of an ambitious project: **the creation of a high-performance cybersecurity chip design and customization center in the Region of Murcia.**

The collaboration between WISeKey, Odin, and T-Protege stands out for its innovative approach and its capacity to establish

This project, supported by the Government of Spain, is an initiative led by WISeKey

international partnerships, driven by its specialization in cybersecurity research projects. This approach has been crucial for the project's adherence to the financial instruments of the Strategic Project for the Economic Recovery and Transformation of Microelectronics and Semiconductors in Spain (PERTE Chip), an initiative of the Secretary of State for Telecommunications and Digital Infrastructures aiming to mobilize 12.25 billion euros by 2027.

WISeKey’s Cryptographic Root Key Expansion

WISeKey’s Cryptographic Root Key has **expanded its global reach and recognition as a Trusted RootKey**, significantly enhancing telecommunications security in the 5G era through its GSMA Root Certificate Issuer (“GSMA Root CI”) accreditation. This milestone marks a transformative advancement in telecom networks, accommodating billions of

new devices and addressing the evolving threat landscape with unparalleled security measures.

In an era where telecommunication networks form the critical infrastructure for digital transformation, the importance of robust security measures providing essential services across numerous sectors cannot be overstated.

These networks significantly influence societal operations, and with the advent of quantum computing, the telecommunications industry faces the dual challenge of leveraging quantum technology while safeguarding against its potential misuse. Threats from malicious entities could compromise network integrity, putting customer data and devices at risk.

WISeKey's in-depth analysis has been conducted to navigate both business risks and technological decisions, encompassing

scenarios such as physical and virtual SIM cards, device and firmware updates, authentication, transport security, cloud infrastructure, virtualized network functions, VPN services, IoT applications, lawful intercept, and privacy considerations.

WISeKey's Root Certificate Authority (CA) was approved in 2024 by the CSA for Matter device attestation and has become a Product Attestation Authority (PAA).

SEALSQ's Device Attestation Certificates

SEALSQ is enabling companies to quickly and easily access Device Attestation Certificates (DACs) through the INeS-managed "PKI as a Service" platform, without the need to invest in hardware infrastructure. Each manufacturer using the platform can manage the security lifecycle of certificates and devices in their dedicated, cloud-based application. SEALSQ will also offer its complete range of FIPS

Certified Secure Elements with pre-provisioning of keys and DACs ready for authentication under the Matter Protocol.

This strong value proposition will enable smart home device manufacturers to achieve faster time to market through cost-effective and simplified design processes when designing Matter-compliant smart home products.

WEB 3.0: Strategic Reorganization Towards Web 3.0

WISeKey is pioneering the Web 3.0 revolution, exemplifying a new era of a neutral, secure, and decentralized internet. This transition underscores our enduring commitment to innovation and our pioneering role in the digital landscape since our inception in 1999.

From our early days as a trailblazer in Root of Trust, identity management, and secure digital

processes, WISeKey now spearheads the Web 3.0 revolution. This paradigm shift embraces a decentralized ecosystem, empowering creators and users with data ownership and control, moving away from traditional server-based infrastructure to a more interconnected and democratic digital realm.

New Business Models and Opportunities in Web 3.0

WISeKey is working to apply these Web 3.0 technologies to generate new revenue streams, leveraging our existing expertise in

cybersecurity, blockchain, and identity management to explore new business models and opportunities such as:

- **Decentralized Finance (DeFi) Services:** Offering secure wallet services, identity verification for DeFi transactions, and cybersecurity solutions for other DeFi platforms.
- **Non-Fungible Tokens (NFTs):** Expanding our NFT marketplace, offering secure authentication of digital assets, and developing new NFT standards for various industries.
- **User Data Monetization:** Enabling users to securely store and monetize their personal data with platforms like WISeID.
- **Tokenization:** Offering tokenization services in cooperation with Hedera's blockchain technology.
- **Decentralized Autonomous Organizations (DAOs):** Providing secure and transparent platforms for DAO operations.
- **Subscription Models and Premium Content:** Offering secure platforms for content creators to distribute premium content directly to their audience.
- **Smart Contracts for Automation:** Assisting companies in developing and offering smart contract solutions to automate and secure various business processes.
- **Decentralized Identity and Cloud Services:** Evolving our WISeID platform to provide decentralized cloud storage and computing services.

Role of Subsidiaries in the Web 3.0 Context

Our subsidiary companies play a critical role in facilitating the transition to a Web 3.0 decentralized internet, each contributing specialized technologies and expertise:

- **SEALSQ Corp:** Provides the hardware and cryptographic backbone necessary for a secure Web 3.0 infrastructure.
- **WISeKey SA:** Specializes in Root of Trust (RoT) and PKI solutions, essential for trust and identity verification in a decentralized internet.
- **WISeSAT.Space AG:** Enhances secure satellite communication for IoT applications, offering an alternative means of data transmission.
- **WISe.ART Corp:** Manages a marketplace for secure NFT transactions, ensuring security, transparency, and traceability in the Web 3.0 context.

- **SEALCOIN AG:** Machine to Machine Token and Decentralized Physical Infrastructure Network DePIN platform.

1.3. INVESTING IN THE FUTURE

As WISeKey steps into its next quarter-century, we remain dedicated to shaping a more secure, equitable, and user-centric digital future, harnessing the transformative power of Web 3.0. In 2024, we continue to invest in new initiatives to:

- ✓ increase revenues
- ✓ improve profitability
- ✓ expand geographic footprint & client base

...all seeking to generate higher returns for shareholders.

Looking ahead to 2030, WISeKey envisions a world where digital identities are universally secure, and privacy is a fundamental right. By then, our pioneering efforts in blockchain technology, artificial intelligence, and quantum

computing will have matured, positioning WISeKey as a global leader in cybersecurity solutions. We will have established robust partnerships across various industries, including finance, healthcare, and IoT, driving innovation and setting new standards for data protection.

Our commitment to sustainability and social responsibility will be evident through our initiatives aimed at bridging the digital divide, ensuring that the benefits of technological advancements are accessible to all. With a stronger, more diversified portfolio and a resilient business model, WISeKey will not only achieve significant financial growth but also play a crucial role in building a trustworthy digital ecosystem for future generations.

1.4. OUTLOOK

► Navigating Market Challenges and Future Growth

As we indicated last year, we are facing an anticipated slowdown in the sale of semiconductors, mainly due to the fact that the semiconductor market faced a slowdown in 2023. Therefore, many of our clients are holding strong inventory levels and waiting for the new

generation of post-quantum chips. Yet, the market is quickly regaining strength as worldwide chip demand increases, and our new generation semiconductors are perfectly positioned to satisfy the new post-quantum cybersecurity requirements.

► **Converting Initiatives into Revenue: 2025-2030**

WISeKey is strategically positioned to convert our new initiatives into substantial revenue streams over the next five years, leveraging the expanding IoT market. The IoT development window will gradually expand during this period, and our focused efforts will ensure we capitalize on this growth.

- **Quantum-Resistant Semiconductor Sales:** As demand for secure IoT devices grows, our post-quantum chips will become integral to the infrastructure of smart homes, autonomous vehicles, and industrial IoT applications. We anticipate significant sales growth starting in 2025 as our new chips enter full-scale production and distribution.
- **PKI and RoT Services:** WISeKey SA's services in Root of Trust and PKI will see increased demand as more devices require secure identity verification and data encryption. This will lead to recurring revenue from device attestation and certificate lifecycle management services.
- **Satellite IoT Solutions:** WISeSAT.Space's secure satellite communication solutions will cater to the growing need for reliable and secure IoT connectivity, particularly in remote and underserved regions. Revenue from satellite launches and data services is expected to grow steadily.
- **Blockchain and Tokenization:** Our blockchain initiatives, including SEALCOIN and WISe.ART, will generate revenue through transaction fees, tokenization services, and the secure trading of digital assets. As the adoption of blockchain technology increases, so will our revenue from these services.
- **Cybersecurity Services for DeFi and DAOs:** The expansion of DeFi platforms and DAOs will create a demand for robust cybersecurity solutions. WISeKey's expertise will position us as a preferred provider, generating revenue through security audits, identity verification, and secure transaction services.
- **Smart Contract and Automation Solutions:** Offering smart contract solutions to automate business processes will open new revenue streams as industries seek to enhance efficiency and security through blockchain technology.
- **Monetization of Personal Data:** Our platforms like WISeID will enable users to securely store and monetize their personal data. As data privacy becomes more critical, our services will attract users looking for secure data management solutions.
- **Consulting and Custom Solutions:** SEALSQ's strategic partnerships with large electronic manufacturers for custom quantum-resistant chips will generate revenue through development contracts and licensing fees. Additionally, consulting services for IoT security and blockchain implementation will provide high-margin revenue opportunities.

WISeKey's strategic investments and focused execution will continue to drive improved financial performance and operational results. The company is well-positioned for long-term success, supporting customers across all subsidiaries and advancing technological innovation in the cybersecurity landscape. By

our aligning of these advancements with market needs, we are poised to convert our initiatives into substantial value for shareholders over the next five years. Our commitment to innovation and security will drive our growth, ensuring we remain at the forefront of the digital transformation landscape.

Thank you for your continued support and trust in WISeKey.

Sincerely,

Carlos Moreira
CEO, WISeKey

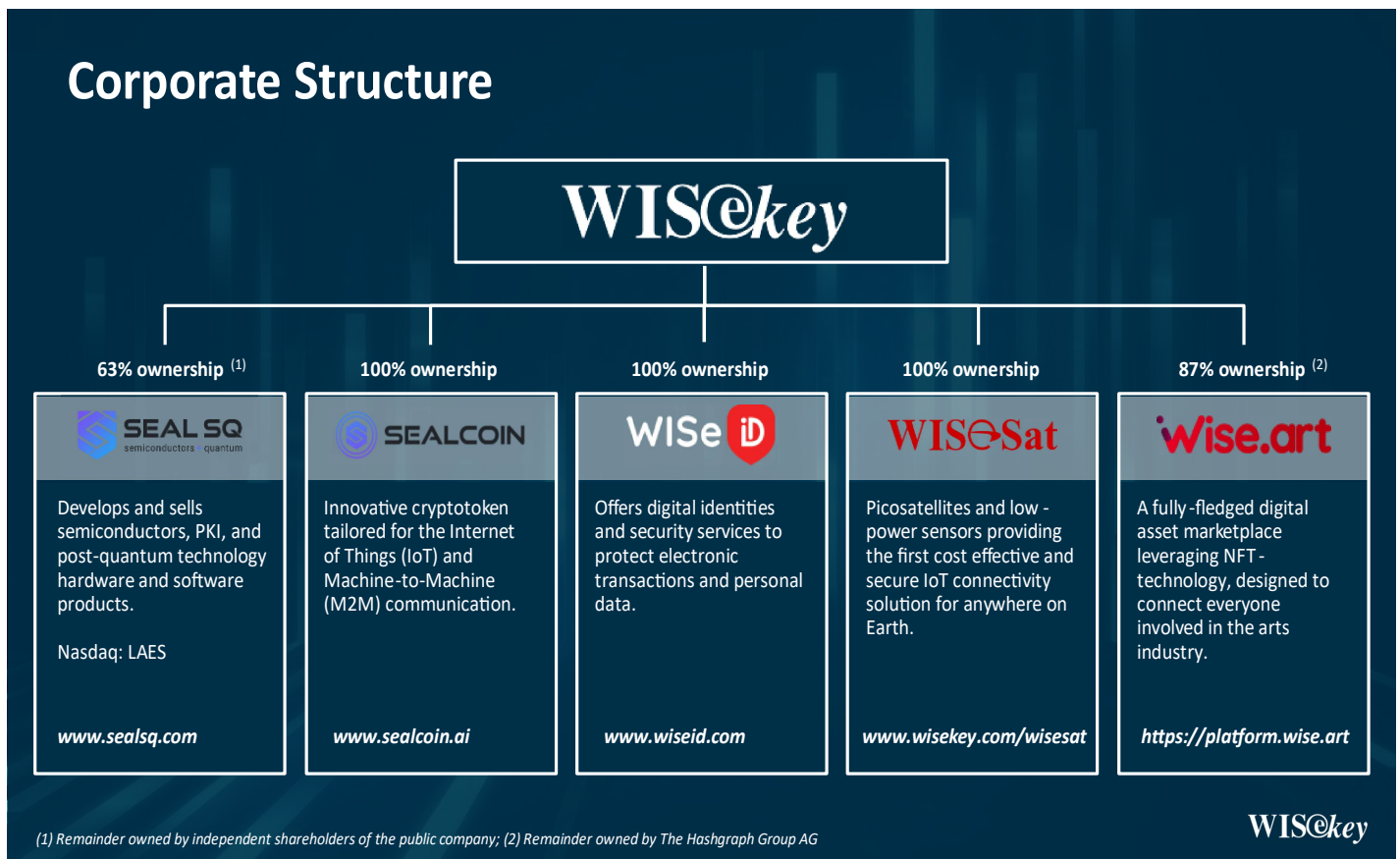


2. ABOUT WISEKEY

2.1. ABOUT WISEKEY

WISeKey International Holding Ltd (“WISeKey” or “Company”, SIX: WIHN; Nasdaq: WKEY) is a global leader in cybersecurity, digital identity, and IoT solutions platform. It operates as a Swiss-based holding company through several operational subsidiaries, each dedicated to specific aspects of its technology portfolio.

2.2. CORPORATE STRUCTURE



Each subsidiary contributes to WISEKey's mission of securing the internet while focusing on their respective areas of research and expertise. Their technologies seamlessly integrate into the comprehensive WISEKey platform. WISEKey secures digital identity ecosystems for individuals and objects using Blockchain, AI, and IoT technologies.

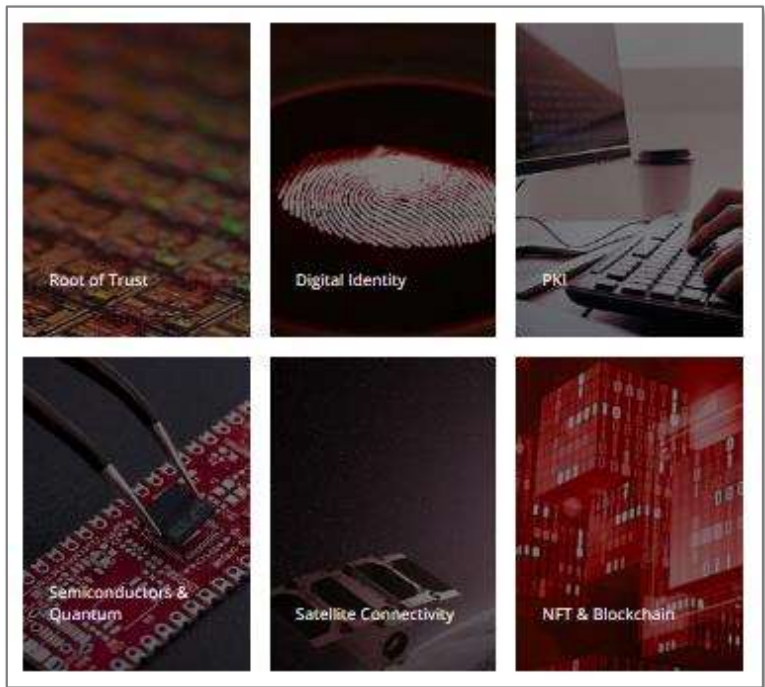
With over 1.6 billion microchips deployed across various IoT sectors, WISEKey plays a

Over 1.6 billion microchips deployed across various IoT sectors.

vital role in securing the Internet of Everything. The company's semiconductors generate valuable Big Data that, when analyzed with AI, enable predictive equipment failure prevention.

Trusted by the OISTE/WISEKey cryptographic Root of Trust, WISEKey provides secure authentication and identification for IoT, Blockchain, and AI applications. The WISEKey Root of Trust ensures the integrity of online transactions between objects and people.

For more information on WISEKey's strategic direction and its subsidiary companies, please visit www.wisekey.com.



3. MANAGEMENT DISCUSSION & ANALYSIS

3.1. INTRODUCTION

The following Management Discussion and Analysis ("MD&A") is intended to provide a reader of WISeKey's financial statements with a narrative explanation from management's perspective of the financial and other significant factors that have impacted and could impact the company's performance. WISeKey may be referred to as "Company" or "Group", representative of its previously portrayed holding company structure. "Group" refers to the consolidation of SEALSQ, SEALCOIN, WISeID, WISeSAT, and WISe.ART under WISeKey.

3.2. H1 2024 KEY FINANCIAL MILESTONES

The key highlights of the six months ended June 30, 2024 ("H1 2024") are:

- **\$5.2 million revenue as a result of a transitional year**
- **\$26.3 million cash balance**
- **Investments in R&D for the development of new projects and technologies**, including SEALSQ's post-quantum chip, SEALCOIN, and our WISeSAT satellites and next generations. This investment is essential to support our growth in future years.

3.3. KEY FINANCIAL METRICS

A summary of the key performance metrics of the Group is set out in the table below:

US GAAP (Million US\$)	H1 2024	H1 2023
Net sales	5.2	15.1
Gross profit	1.1	8.1
Operating loss as reported	(14.1)	(5.9)
Net loss attributable to WISeKey as reported	(9.5)	(7.0)
Cash and cash equivalents	26.3	15.3

3.4. FINANCIAL DISCUSSION AND ANALYSIS

► Revenue

WISeKey revenue for H1 2024 was \$5.2 million, compared to \$15.1 million in the six months ended June 30, 2023 (“H1 2023”). This reduction is in line with our expectations; we previously announced that 2024 was expected to be a ‘year of transition’ for the Group and the decrease in revenue is the expected outcome of this transitional period.

Revenue decline at the Group level is primarily attributable to our semiconductor vertical, SEALSQ, which announced revenue for H1 2024 of \$4.8 million, compared to \$14.8 million in H1 2023. 2023 revenue levels still benefited from the exceptional market conditions that the COVID-19 pandemic created, where the shortage in raw material pushed customers to make long-term commitments to secure their supply. This also led some of our customers to build stocks of our products for 2023 and 2024, which is adversely impacting H1 2024 revenue as our customers look to use up their stock before placing new orders. Additionally, now that the market is back to normal, supply is plentiful and competition has increased back to pre-COVID level, semiconductor customers no longer need to commit to long-term forecast to secure their microchip supply and can instead flex their purchases to fit.

As customers use their stock, we expect revenue to begin showing improvement in the second half of 2024, although total revenue for the year 2024 is not expected to be on the same scale as 2023, with more material recovery expected to be seen in 2025.

► Revenue by Region

Our operations are global in scope, and we generate revenue from selling our products and services across various regions. Our operations in North America contribute the largest part of our revenues. In H1 2024, the contribution to revenue from Europe, Middle East & Africa has proportionately decreased more significantly due to higher stock levels of our products.

Our revenue by geographic region for the six month-period ended June 30, 2024 and 2023 is set forth in the following table:

Net sales by region USD'000	6 months ended June 30,			
	2024 (unaudited)		2023 (unaudited)	
North America	3,088	60%	8,374	55%
Europe, Middle East and Africa	1,167	23%	4,773	32%
Asia Pacific	890	17%	1,956	13%
Latin America	29	0%	4	0%
Total net sales	5,174	100%	15,107	100%

► Gross Profit

Our gross profit margin decreased by over 32 percentage points from 53.6% in H1 2023 to 21.5% in H1 2024. This decrease in gross profit margin is expected to be temporary and is primarily due to the costs of inventory that remain high, with some incompressible fixed costs whilst our customers are using their own stock and we are therefore shipping less parts until customers can take delivery of new products. This is illustrated by the increase in our Days Sales of Inventory (DSI) from 145 in the year 2023 to 187 in H1 2024. As customers use up the stock they have built and progressively resume ordering new products, the gross profit margin is expected to rise back to previous average levels.

► Research & Development Expenses

Our research and development ("R&D") expenses includes expenses related to the research of new technology, products and applications, as well as their development and proof of concept, and the development of further applications for our existing products and technology. It includes salaries, bonuses, pension costs, stock-based compensation, depreciation and amortization of capitalized assets, costs of material and equipment that do not meet the criteria for capitalization, as well as any tax credit relating to R&D activities, among others.

Our R&D expenses increased by \$0.8 million between H1 2024 and H1 2023. As we are working on the development of our next-generation products and revenue streams, including our post-quantum QUASAR program and SEALCOIN t-IoT project, R&D remains a large part of our operating expenses with **\$2.9 million spent in the six months ended June 30, 2024**, representing 19% of total operating expenses.

Our Group being technology-driven, the level of our R&D expenses reflects our engagement to act as a leader in semiconductor security solutions and future applications.

Research tax credits are provided by the French government to give incentives for companies to perform technical and scientific research. Our subsidiary SEALSQ France is eligible to receive such tax

credits. The credit is deductible from the entity's income tax charge for the year or payable in cash the following year, whichever event occurs first.

► **Selling & Marketing Expenses**

Our selling & marketing ("S&M") expenses include advertising and sales promotion expenses such as salaries, bonuses, pension costs, stock-based compensation, business development consultancy services, and costs of supporting material and equipment that do not meet the criteria for capitalization, among others.

With a total of \$4.0 million, our S&M expenses increased by \$0.1 million in comparison with our H1 2023 S&M expenses of \$3.9 million. This reflects the Group's strategy to maintain strong sales force to work on the geographical expansion of our customer base and dedicate sufficient resources to the promotion of our next-generation products and innovative solutions under development.

► **General & Administrative Expenses**

Our general & administrative ("G&A") expenses cover all other charges necessary to run our operations and supporting functions, and include salaries, bonuses, pension costs, stock-based compensation, lease and building costs, insurance, legal, professional, accounting and auditing fees, depreciation and amortization of capitalized assets, and costs of supporting material and equipment that do not meet the criteria for capitalization, among others.

Net of stock-based compensation, our G&A expenses of \$8.3 million has increased by \$0.4 million in comparison with the \$7.9 million G&A expense net of stock-based compensation for the six months ended June 30, 2023. This small increase by 5% is mainly due to additional legal and audit expenses of \$0.9 million and \$0.2 million respectively in relation to the various SEC filings required. These additional expenses were partially offset by a reduction in professional fees by \$0.5 million relating to one-off costs incurred in 2023 for the initial partial spin-off and listing on the Nasdaq of a subsidiary, SEALSQ Corp.

► **Operating Results**

As a result of the factors described in the above sections, WIS@key's operating loss increased by 140% from \$5.9 million in H1 2023 to \$14.1 million in H1 2024.

The main factor behind this increase in operating loss is the decrease in gross profit by \$7.0 million whilst the Group has boosted its R&D efforts by USD 0.9 million and incurred additional G&A expenses to focus its SEC and financial reporting.

► Net Results

The increase in net loss from \$7.1 million in H1 2023 to \$15.5 million for H1 2024 is directly derived from the change in operating loss.

In H1 2024, total non-operating expenses decreased by \$0.9 million. This change mainly relates to a \$0.3 million financial income from short-term placements of the Company's cash assets, combined with an increase in foreign exchange gains by \$0.2 million and the decrease in foreign exchange losses by \$0.6 million, partially offset by an increase in interest expense by \$0.3 million.

However, this positive variance in non-operating expenses was offset by a \$1.0 million increase in income tax expenses. Indeed, in H1 2024, the Group incurred an income tax charge of \$1.3 million in relation to its deferred income tax assets. As at June 30, 2024, the Group assessed that the recoverability of its deferred tax assets would spread over more years than initially calculated and that, as a result, the valuation allowance should be increased to reflect the expected delay in recoverability which resulted in an income tax expense of \$1.3 million, compared to a \$0.3 million tax charge in H1 2023.

► Liquidity and Capital Resources

Cash and cash equivalents at June 30, 2024 was \$26.3 million, compared to \$15.3 million at December 31, 2023. The most significant sources of funding of the Group are financing facilities, customer sales and research tax

credits provided by the French government. In H1 2024, a total of \$20 million was funded by the Share Purchase Agreements with L1 Capital Global Opportunities Master Fund and Anson Investments Master Fund.

3.5. OPERATIONAL DISCUSSION & ANALYSIS

Year of Transition

2024 is considered a 'year of transition' as several projects across verticals are nearing their final development stage and expected to be launched on the market in 2025 and 2026, thereby opening new revenue streams.

Subsidiary-Level Developments

SEALSQ

Semiconductors and Post-Quantum IoT Vertical

In its semiconductor vertical, the Group is developing its next-generation secure microcontrollers range built on the new Secure RISC-V CPU with a state-of-the-art secure firmware stack on it, compliant with the Trusted Computing Group definition of a Trusted Platform Module 2.0 (TPM 2.0) and with the NIST FIPS 140.3 certification requirements, under the project name QUASAR for QUAntum resistant Secure ARchitecture.

Management believes that the QUASAR R&D project is essential to ensure that the Group remains competitive in the future because customers and IT providers are turning to more secure equipment. For instance, one of Windows 11's operating system requirements is TPM 2.0 implementation. Microsoft has stated that this is to help increase security against firmware attacks¹. Additionally, the United States Department of Defense (DoD) specifies that "new computer assets (e.g., server, desktop, laptop, thin client, tablet, smartphone, personal digital assistant, mobile phone) procured to support DoD will include a TPM

version 1.2 or higher where required by Defense Information Systems Agency (DISA) Security Technical Implementation Guides (STIGs) and where such technology is available"². We have involved our customers in this transition to make sure that our new product range will suit their needs. With this strategy, we expect to get their buy-in for our long-term product strategy but, in the short term, this has also led some of our customers to also prepare the transition into the next generation products and we expect some hold back on volumes during this transition.

In the semiconductor industry, the development of a new product range involves complex engineering which takes months. The QUASAR project was launched in 2022. The design phase was completed in Q2 2024 as planned, with the first engineering samples currently in production and scheduled to be available by Q4 2024. The first samples of QVault-TPM are planned to be available in Q1 2025 and full production is expected in 2026.

¹ Warren, Tom (2021-06-25). "Why Windows 11 is forcing everyone to use TPM chips". The Verge. Retrieved November 13, 2021.

² US Department of Defense. Instruction 8500.01. March 14, 2014. p. 43

SEALCOIN

Transactional-IoT (t-IoT) and Machine-to-Machine (M2M) communication Vertical

The new SEALCOIN vertical of the group promises an exciting Revolution in Transactional-IoT (t-IoT) and Machine-to-Machine (M2M) communication, with the Disintermediation of Service Providers. In July 2024, SEALCOIN successfully completed a Proof of Concept (PoC) demonstrating the use of advanced technology embedded within a semiconductor device to validate and verify

automated transactions between devices within the Internet of Things (IoT) ecosystem. The Disintermediation of Service Providers enables devices to transact directly with one another, which means that SEALCOIN eliminates the need for intermediaries, enhancing efficiency and reducing costs in the IoT ecosystem. See section 4.4 of [this report](#) for additional detail.

WISeSat.Space

Satellite-Based IoT Solutions Vertical

With its WISeSat.Space operations, the Group is dedicating part of its R&D expenses to developing ultra-secure picosatellite solutions to secure IoT communication via space-based networks (see section 4.2 of this report). 17 satellites are already in orbit and a [new generation Low Earth Orbit \(LEO\) satellite](#) is expected to be launched in the first quarter of 2025 and offer improved performance and capabilities, supporting a wide range of applications from climate change monitoring to disaster management and smart agriculture, and [to operate blockchain nodes from space](#). Also in September 2024, WISeSat.Space [announced the signing of a Proof of Concept](#) with a Spanish logistics specialist, *Tránsitos y Transportes Logísticos S.L.*, to equip its vehicles

with state-of-the-art IoT sensors and implement the Group's tracking platform. This POC aims at highlighting the expected benefits of the WISeContainer IoT sensors solution:

- optimized traceability and tracking;
- prevention of vandalism or theft, as the IoT sensors are able to detect any tampering attempt;
- continuous supervision of the transport conditions thanks to the IoT sensors, thereby ensuring the quality of the goods transported;
- Increase safety and efficiency through the control and monitoring of driver behavior.

WISe.ART

Secured Art Marketplace Vertical

WISe.ART offers a fully-fledged digital asset marketplace leveraging NFT-technology, designed to connect everyone involved in the arts industry. With over 2,500 works and a total

value of over \$32 million listed on its platform, WISe.ART is actively seeking to monetize its secure art trading platform (see section 4.3 of this report).

WISeID

Trust Services and Digital Identity Vertical

WISeID is the underlying trust services technology for all our verticals and provides a full range of services to enable trusted and verified identities for people, applications and

objects. WISeKey continues to improve its WISeID offering and has supplied a fully-fledged solution for personal identity to the Government of Seychelles (See section 4.5 of this report).

3.5. CONSOLIDATED INCOME STATEMENT OF WISEKEY INTERNATIONAL HOLDING LTD

USD'000	Unaudited 6 months ended June 30,		Year-on-Year Variance
	2024	2023	
Net sales	5,174	15,107	-66%
Cost of sales	(3,834)	(6,924)	-45%
Depreciation of production assets	(228)	(84)	171%
Gross profit	1,112	8,099	-86%
Other operating income	178	21	748%
Research & development expenses	(2,942)	(2,151)	37%
Selling & marketing expenses	(3,967)	(3,887)	2%
General & administrative expenses	(8,518)	(7,968)	7%
Total operating expenses	(15,249)	(13,985)	9%
Operating loss	(14,137)	(5,886)	140%
Non-operating income	1,129	598	89%
Debt conversion expense	(21)	(484)	-96%
Interest and amortization of debt discount	(529)	(119)	345%
Non-operating expenses	(584)	(896)	-35%
Loss before income tax expense	(14,142)	(6,787)	108%

4.1 OUR SUBSIDIARIES - SEALSQ

4.1. SEALSQ

Nasdaq: LAES

www.sealsq.com



SEALSQ
semiconductors + quantum

Develops and sells semiconductors, PKI, and post-quantum technology hardware and software products.

4.1.1. OVERVIEW

SEALSQ Corp ("SEALSQ" or "Company", Nasdaq: LAES) selling integrated solutions based on Semiconductors, PKI and Provisioning services, while developing Post-Quantum technology hardware and software products. The Company was listed on Nasdaq in May 2023 under the ticker LAES and currently has clients in over 30 countries and 118 security related patents.

Markets served by SEALSQ:



Smart Home



IP Protection



Smart Grid



Smart Factory



EV Charging



Healthcare



Military & Govt.



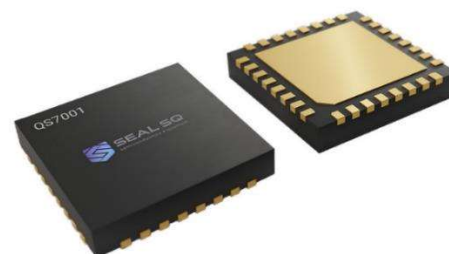
Secure Access

4.1.2. PRODUCT PORTFOLIO EVOLUTION

Post Quantum Cryptography & QUASARS Project - Launch of the QS7001 quantum resistant hardware platform

► Background

In 2022, SEALSQ launched its QUASAR (QUAntum resistant Secure ARchitecture) project, developing next-generation secure microcontrollers built on the new Secure RISC-V CPU. By December 2023, a critical milestone was reached with the delivery of an FPGA, the emulator chip for the first commercial version of this new class of secure microcontroller products.



► Progress

The design phase has been completed over Q2 2024 as planned, with the first engineering samples currently in production and available by Q4 2024. The product has been launched by the Sales and Marketing teams and has immediately triggered market interest with several high potential opportunities under discussion.

This project marks a significant step forward into the Post Quantum Cryptography era,

► Application

Post-quantum cryptography (PQC) involves developing cryptographic methods secure against attacks by quantum computers. As quantum computers advance, they may break many current cryptographic methods, such as Rivest-Shamir-Adleman (RSA) and Elliptic Curve Cryptography (ECC). PQC seeks to create new cryptographic techniques resilient to quantum attacks

implementing a hybrid solution that combines traditional algorithms like ECC and RSA with the Post Quantum algorithms selected by NIST, in line with France's National Cybersecurity Agency (ANSSI) recommendations.

The QS7001 also serves as the base architecture supporting our new ASICs strategy focusing on offering customizable state-of-the-art secure hardware to major OEMs and technology players.

Examples include lattice-based cryptography, which relies on the complexity of the Shortest Vector Problem (SVP) and can be used for digital signatures, key exchange, and encryption. Another example is code-based cryptography, which uses the difficulty of decoding certain algebraic error-correcting codes for secure digital signatures, key exchanges, and encryption schemes.

This PQC toolbox will help mitigate the security threats posed by quantum computers, enabling

hybrid solutions by 2025, as recommended by the French ANSSI. Additionally, SEALSQ plans to enhance its Public Key Infrastructure (PKI) offerings with new post-quantum features for the IoT market, including secure authentication,

Post Quantum TPM Program Update

► Background

A Trusted Platform Module (TPM) is a hardware-based security device that provides secure cryptographic functions and storage for encryption keys, passwords, and digital certificates. Defined by the Trusted Computing Group (TCG)—an international industry consortium—TPM is implemented on computer motherboards or as an integrated part of the system’s hardware. It is designed to secure hardware through integrated cryptographic keys

► Progress

Following the completion of the QS7001 hardware platform design, the team is focusing on the upcoming launch of the QVault-TPM, or which first samples are expected to be available

► Application: TPM vs Secure Elements

While both TPM and Secure Elements (SEs) provide critical security services, their applications, performance characteristics, and focus areas differ significantly, with TPMs aiming for overall system security and SEs targeting more specific high-security applications.

Primarily used in PCs, laptops, and servers to ensure the integrity of the system by protecting against unauthorized access and tampering,

brand protection, network communications, future FIDO evolutions, and various web-connected smart devices that analyze and process environmental data.

and can perform cryptographic operations like digital signing and key generation.

The QUASARS project is not limited to designing and building a post quantum secure hardware platform, but also aims at running a state-of-the-art secure firmware stack on it, compliant with the Trusted Computing Group definition of a Trusted Platform Module 2.0 (TPM 2.0) and with the NIST FIPS 140.3 certification requirements.

in Q1 2025. The Sales and Marketing activities around this new product have already begun, triggering business discussions with existing and new customers.

TPMs are geared towards securing a broader computing environment. SEs are in turn typically found in mobile devices, smart cards, and IoT devices, and are used to perform secure transactions and authenticate user access, focusing on specific applications like mobile payments, SIM functionality, or device authentication.

Provisioning with SEALBOX

An innovative solution for IoT device provisioning at manufacturing stage, SEALBOX was launched during the CSA Member Meeting in Singapore in March 2024.



SEALBOX aims to address the current challenges in the IoT device provisioning process. This process of securely generating and provisioning device identity and data requires manufacturers to use a Public Key Infrastructure (PKI) to create and install a unique digital certificate. While it presents difficulties to both manufacturers and integrators, this process is crucial to guarantee device authentication and security.

Providing each device with a distinct identity is also now enforced by prominent standards such as Matter, EV-charging, OPC-UA Industry 4.0, US Cyber Trust Mark, and the European Cyber Resilient Act.

SEALBOX has been designed to help overcome these challenges, offering a fully integrated, secure, and flexible solution to automate the generation and provisioning of trusted certificates, as well as firmware data provisioning during the device's manufacturing phase.

Deployed in production and connected to a factory programmer, SEALBOX is natively connected to the INeS PKI cloud platform. The secure box automates the certificates generation and recovery from INeS, ensures certificates secure storage in production, and enables the secure provisioning of private keys and certificates up to the IoT device based on any kind of MCU or MPU. It is also capable of provisioning additional essential data like device firmware under a secure framework.

The launch of SEALBOX marks SEALSQ's further penetration down the value-chain. By adding another layer to its vertical suite of security products and services, SEALSQ is well-positioned to help IoT Device Makers seamlessly achieve all market standards compliance.

PKI & Root-of-Trust: GSMA Root-CI Accreditation

SEALSQ leverages the WIS@key Root Certificate Authority, which attained GSMA Root CI accreditation in Q1 2024, to facilitate security and interoperability. Through this, SEALSQ PKI can enable eUICC and Subscription

Management entities to identify and authenticate within the GSMA remote provisioning Consumer ecosystem.

This comprehensive offering aims to streamline the process for eUICC manufacturers and SM-DP+/SM-DS Service Providers, aiding them in achieving a faster time to market. This approach is achieved through cost-effective and simplified design processes for obtaining GSMA PKI Certificates.

SEALSQ further enhances the proposition by enabling companies to swiftly access certificates compliant with the new version 3, in line with SGP.22 v3.0 and SGP.14 v2.1 standard.

This service is facilitated through INeS, a managed "PKI as a Service" platform, which eliminates the need for hardware infrastructure investments.

The adoption of eSIM specifications and remote SIM provisioning is poised to significantly enhance interoperability and security-by-design within the cellular industry. This aligns with SEALSQ's mission to foster a safer connected world.

► **Benefits to GSMA participants provided by SEALSQ:**

- ✓ Accelerate time to market by securing GSMA PKI Certificates for eSIM compliant version 3 consumer products.
- ✓ Benefit from flexible deployment options, such as on-premises, hosted, or batch issuance.
- ✓ Simplify the management of certificates via the SEALSQ INeS CMS Platform for consumers.
- ✓ Rely on SEALSQ's GSMA Root CI, recognized as a WebTrust accredited CA, ensuring a high level of trust and security.

About GSMA

The GSMA is a global organization unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Representing mobile operators and

organizations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity, Industry Solutions and Events.

Other PKI Services: CertifyID TLS/SSL Server Certificates

In Q2 2024, SEALSQ launched a complete Marketing and Sales program to develop the business around CertifyID TLS Manager under the SEALSQ brand. CertifyID is a PKI for TLS SaaS solution initially developed by WIS@key.

The solution is cost competitive and offers a strong value proposition on the B2B market,

with a go-to-market strategy focusing on very large multinational organizations and IT service partners or resellers: it can be used by individual users and by companies or resellers needing to manage tens of thousands or hundreds of thousands of users.

It provides centralized management of digital certificates, without the hassle of building and maintaining a PKI. Administrators can easily obtain digital certificates that can be installed on their servers. It offers advanced life-cycle management and automation features, a critical

point as certificate lifetime tends to shorten while renewal tasks remain time-consuming.

Most importantly, SEALSQ's Root Certification authority stands approved by Microsoft, Apple, Mozilla, Google, Adobe and many others.

► **Application: TLS/SSL Certificates**

TLS and SSL Certificates are used to enhance the security over the IP networks (Internet and Intranet) implementing the TLS or SSL protocols, authenticating the servers or devices and encrypting its communications, using Public Key cryptography and digital signatures.

When accessing a TLS/SSL-Protected Server, users will know that they are connecting to a genuine server owned by the company providing the service, and that the data transferred between them and the server is confidential.

4.1.3. SALES & MARKETING



H1 2024: A harvest of new business opportunities

SEALSQ's business activity in H1 2024 has shown promising opportunities for new projects: for the first six months of the year, SEALSQ has 27 new projects under development globally, representing more than double the number of projects in H1 2023.

27 new projects under development globally.

SEALSQ is bolstering its presence in Smart Home devices projects, where Matter certification is a prerequisite. SEALSQ is now engaged in several projects in this field, including electronic door openers,

shutter controls, heater controls, and air-conditioner controllers, primarily in Europe and Asia. In these projects, SEALSQ offers customers either a comprehensive solution that includes a secure element with PKI services or a solution with PKI services only. Additionally, SEALSQ continues to expand its presence in the

Smart Metering market in Japan, India, and the USA.

Significant growth in this activity is expected in the coming months by SEALSQ's entrance into new PKI markets such as the GSMA certificates market and the TLS/SSL certificates market.

Marketing Outlook: Brand awareness & Lead Generation

During H1 2024, SEALSQ has initiated an ambitious digital marketing program to develop brand awareness, increase product visibility, and generate leads across United States, EMEA and Asia key target markets.

The program involves several advertising campaigns across social media (LinkedIn, X and YouTube) and Google Ads, successively aimed at increased traffic and lead conversion. The program leverages professional content providing valuable insights and information on

key technical subjects related to SEALSQ's operations, like Compliance to IoT security regulation worldwide, EV Charging, or Matter Smart Home standard. The initiative also features SEO web content optimizations to improve visibility and traffic.

The Campaign began at the end of June 2024 and is delivering results aligned with expectations. It is planned to generate over one million views and twenty-five thousand clicks.

4.1.4. RECOGNITIONS

ISO27001 & CISCO supplier Audit Renewals

During the first half of 2024, SEALSQ renewed both its ISO 27001 and CISCO Security certification. Auditors reported for the 8th consecutive time no deviation or non-conformity to the security guidelines.

Certifications:



4.1.5. GROWTH STRATEGY

1 IoT Market: Security Regulations Compliance

SEALSQ is strategically positioned with its comprehensive security services and product offerings to support device manufacturers in achieving compliance with IoT regulations. This positions the company to capitalize on the substantial business opportunities presented by the growing demand for secure IoT solutions in response to evolving regulatory requirements.

Regulatory Environment

▶ The landscape of IoT security regulations is evolving rapidly to address growing cybersecurity concerns. In the US, the Cyber Trust Mark, introduced by the FCC in 2023, mandates IoT device manufacturers to embed secure identities, implement encryption, and utilize PKI. This regulation is set to be enforced by mid-2025, aiming to ensure consumer products meet stringent security standards.

▶ The EU's Cyber Resilience Act, proposed in 2022 and expected to be enforced by 2025, requires manufacturers to ensure devices are designed with security in mind from the outset, including secure boot mechanisms and regular software updates.

▶ The UK's Product Security and Telecommunications Infrastructure (PSTI) Act, which will come into full effect in 2024, enforces similar requirements, focusing on secure identity and encryption, and obligating manufacturers to maintain a vulnerability disclosure policy.

▶ In Singapore, the Cybersecurity Labelling Scheme (CLS), operational since 2020, was enhanced in 2023 to require higher-level

security features like PKI and secure communication protocols. These regulations collectively push IoT device manufacturers towards more robust security practices, emphasizing the need for built-in security features and ongoing maintenance to protect against evolving threats.

▶ The tightening of IoT security regulations has significantly impacted the business of IoT security, particularly for vendors of secure elements and PKI solutions. With mandatory requirements for secure identities, encryption, and PKI becoming standard, the demand for secure elements such as hardware security modules (HSMs) and secure microcontrollers has surged. The global market for IoT security was valued at \$12.5 billion in 2022 and is projected to grow at a CAGR of 22.4% from 2023 to 2030. (*Grand View Research*)

▶ PKI vendors are also seeing increased opportunities as manufacturers seek to comply with regulations mandating digital certificates and secure key management. This has led to a proliferation of PKI services tailored for IoT, including scalable cloud-based solutions. The regulatory push has spurred innovation and

competition, driving vendors to develop advanced, cost-effective security solutions. Consequently, the market for IoT security solutions is experiencing robust growth, with significant investment in research and development to stay ahead of emerging threats and regulatory changes.

► In summary, evolving IoT security regulations are driving a dynamic, rapidly growing market for secure elements and PKI vendors, with the global market expected to continue its strong growth trajectory.



2 TPM Market

The TPM standard was originally thought and designed for PC (Hard Drive encryption, boot pw storage). WINDOWS™ 11 made it mandatory for the PC world.

In 2023, 550 million were shipped. This is a very fast-growing market, with a CAGR of 33.4%. Demand for TPMs is primarily driven by utilities/Industrial IoT (IIoT) and connected car applications.

The addressable market for IoT cybersecurity is massive: more than 12 billion IoT devices were connected in 2021, and this number is expected

to grow to 27 billion units in 2025 with CAGR of 22%.

McKinsey predicts an annual US\$12.6 trillion in economic value by 2030.

Sources: *EUROSMART association – Secure Elements Global market estimates, Dec 2022; ABI Research - Which Security Solutions Are Being Used to Curb the IoT Cyber Risk- Sept 2023; State of IoT – Spring 2022”, IoT Analytics, May 2022; The Internet of Things: Catching up to an accelerating Opportunity”, McKinsey & Company, November 2021.*

3 ASICS Activity

A first Multimillion-dollar deal

As previously announced, SEALSQ is in final negotiations with a major technology player for a multi-year, multimillion-dollar ASIC project, expected to be finalized before the end of 2024.

► Background

ASICs are specialized integrated circuits designed to perform specific functions or tasks within a particular application domain. They offer advantages such as higher performance, lower power consumption, and reduced size and cost compared to alternative solutions like field-programmable gate arrays (FPGAs) or general-purpose microcontrollers.

SEALSQ has strategically initiated discussions with select large electronic manufacturers to leverage the new chip's advanced hardware architecture by developing custom quantum-resistant chips derived from the QS7001 and incorporating ASIC customer requirements. This move into the post-quantum ASIC segment represents a significant step in SEALSQ's commercial and industrial strategy, creating a new pipeline of business opportunities and revenue.

Financially, ASIC development contracts typically include customer payments to cover non-recurring engineering development expenses. Industrially, this aligns with SEALSQ's project to establish a Semiconductor Design and Personalization center, utilizing its engineering resources to support the upcoming ASIC activities

► Room for Growth

Overall, the ASIC market is characterized by steady growth, driven by technological advancements and increasing demand for customized solutions across various industries.

- **Market Size:** The global application specific integrated circuit market size accounted for \$17.99 billion in 2022 and is expected to hit around \$35.89 billion by 2032, with a registered CAGR of 7.20% from 2023 to 2032. ([source](#))
- **Application Areas:** ASICs find applications in telecommunications, automotive, consumer electronics, industrial automation, and healthcare.
- **Technology Trends:** Advancements in process nodes and packaging technologies enable higher integration, improved performance, and lower power consumption, particularly for AI, IoT, and 5G applications.
- **Emerging Markets:** Demand is rising for low-power ASICs in IoT and sensor applications, as well as for ASICs used in ADAS, autonomous vehicles, and EVs in the automotive sector.

- **Security Concerns:** ASIC vendors are integrating hardware-based security features such as encryption and authentication to address cybersecurity threats, especially in IoT and cloud computing.

4 Design & Personalization Center

Significant progress has been made on the project of creating Semiconductor Design, Test and Personalization Centers. The first project is taking shape in Murcia, Spain under the name of **Quantix EdgeS, a joint venture involving WISeKey, SEALSQ, and local partners.**

This new consortium is in very advanced stage of discussions with the Spanish Government to secure over €20 million in funding under Spain's Strategic Project for the Economic Recovery and Transformation of Microelectronics and Semiconductors (PERTE Chip). The venture aligns with Spain's strategic emphasis on digital transformation, aiming to enhance the nation's semiconductor capabilities and position the Region of Murcia as a technological leader.

The PERTE Chip initiative seeks to mobilize €12.25 billion in public investment by 2027 to turn Spain into a global chip hub, reinforcing the national microelectronics and semiconductor industry's design and production capabilities.

Moving Forward

During this year of transition, SEALSQ has prioritized the introduction of and advancement on projects set to deliver diversified sources of recurring revenue, in years to come. The team has implemented strategic changes, including the addition of many experienced engineering hires, to best position SEALSQ for long-term growth.

Quantix EdgeS is poised to become a key player in critical sectors such as smart cities, IT infrastructure, smart embedded systems, and 5G networks. Leveraging WISeKey's global cybersecurity expertise, SEALSQ's semiconductor and PKI technology knowledge, and their local partners footprint in the IoT ecosystem, the project aims to drive Spain's digital transformation and economic diversification. By establishing a Cybersecurity and Semiconductor Customization Center in Murcia through Public-Private Partnerships (PPP), Quantix EdgeS seeks to mitigate global semiconductor dependency and attract high-value talent, ultimately fostering innovation and enhancing Spain's competitive advantage in the digital economy.

Aside from this first project, SEALSQ is also carrying negotiations to build similar concepts with public and private investors in countries like India, Azerbaijan and the United States (AZ).

H1 2024 developments underscore SEALSQ's commitment to innovation in the rapidly evolving cybersecurity landscape.



4.2 OUR SUBSIDIARIES – WISeSAT.Space

4.2. WISeSat.Space

www.wisekey.com/wisesat



Picosatellites and low-power sensors provide the first cost effective and secure IoT connectivity solution for anywhere on Earth.

4.2.1. BACKGROUND AND VISION

The trailblazing space arm of WISeKey, WISeSat.Space AG (“WISe.SAT”) is at the forefront of creating ultra-secure picosatellite solutions in collaboration with its partner FOSSA Systems (“FOSSA”). It secures IoT communication via space-based networks, harnessing the latest cryptographic innovations to guarantee safe and instantaneous data exchanges across diverse sectors, safeguarding the sanctity and privacy of the data transmitted.

Champions the cause of secure IoT communication via space-based networks, safeguarding the sanctity and privacy of the data transmitted.

WISeKey strategically invested in FOSSA in 2021 to integrate its picosatellite technology into the WISeKey IoT Connect & Trust model. Because of this forethought, **WISeKey can now offer WISeSAT.Space products and services to all its IoT clients in a SaaS model, as it works to**

build a joint constellation of 88 low-orbit satellites with FOSSA by the end of 2026.

This will allow both remote and redundant urban IoT communications for companies seeking to securely connect their assets via satellite communication by covering large and unserved

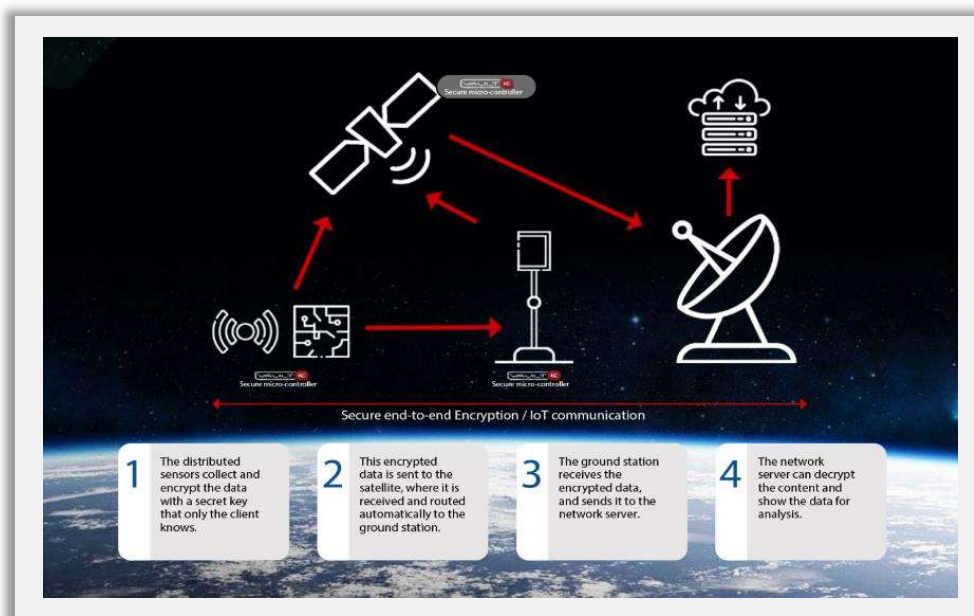
geographic areas such as maritime, deserts, mountains, etc., at affordable prices. The vision is to drive mass adoption of satellite-enabled IoT through secure interoperable and standardized connectivity using LPWAN technologies such as LoRa or NB-IoT.

WiSeKey Trust and Security solutions offer unique integration into an end-to-end platform that communicates in real-time with WiSeSAT satellites by ensuring the authenticity, confidentiality, and integrity of the devices, objects, data and transactions.

WiSeKey's INeS platform uses state-of-the-art cryptographic algorithms to meet the highest standards for issuing, managing, and validating digital credentials for IoT devices, which can now be connected with WiSeSAT Satellites as well. This platform is scalable to support environments for hundreds of millions of devices and sensors equipped with WiSeKey semiconductors, able to remotely collect data from the field and transmit it to the backend.

Additionally, INeS features Entity Management (any custom attributes such as identities, group, type, role, and life cycle), Message Security Policy Management, and Business Rules Management. Interfacing via the cloud and connecting devices and applications, INeS is capable of remotely identifying credentials and controlling activation, deactivation, revocation, renewal, and secure provisioning.

WiSeSAT PocketQube satellites now enable all IoT sectors to connect at planetary scale.



4.2.2. INDUSTRIES AND USE CASES

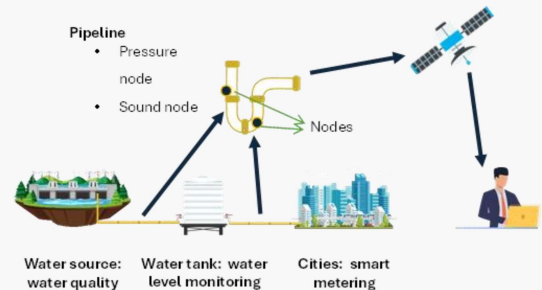
1 Utilities: Energy & Water Distribution

25 to 50% of all distributed water globally is lost due to leakages, deteriorating infrastructure, incorrect water pressure management, or illegal abstraction. This causes additional operating costs as well as having negative social and ecological impacts.

Water and energy are very scarce commodities, so it is imperative to control and monitor all the infrastructure correctly. However, a large part of the distribution chain is not very accessible to data since it is in areas with no terrestrial connectivity. For this reason, sensitizing pipes can allow for automated processes and avoidance of losses.

Use Case: Utilities

Water or energy distribution chains can be monitored via WISeSAT IoT nodes and satellite connectivity obtaining information on the pipes, even in isolated areas. This allows for control of the state of the infrastructure, improved water distribution efficiency, reduction of water losses and resource optimization.



2 Oil and Gas: Pipeline Management

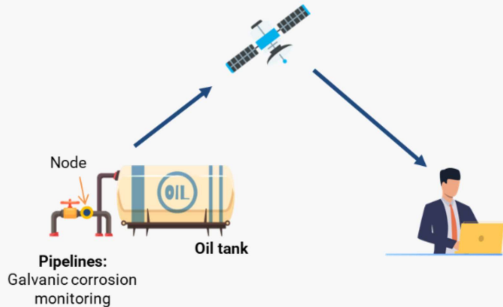
There is currently over 2 million kilometers of pipeline around the planet. Much of that is in areas inaccessible to the workforce, so maintenance and monitoring involve significant investments for energy companies. Besides significant product loss, pipeline leakages can cause irreversible impacts on the environment and wildlife while threatening workers and public safety. According to a [2018 research](#), liquid

pipeline accidents cost \$326 million annually in the US alone. Among this, \$140 million is attributed to environmental and remediation costs.

The operational, safety, and sustainability benefits of IoT pipeline monitoring significantly outweigh the cost and will bolster a competitive edge in the oil & gas market.

Use Case: Oil & Gas

In some metallic structures, such as oil and gas pipelines, cathodic protection by inducing a forced current is used as a galvanic corrosion control mechanism. In many cases, operators are sent to manually measure the voltage at the protection points monthly to control the correct operation of the pipeline. However, WISeSAT's IoT techniques allow the deployment of devices along the pipelines, making it possible to access information and status daily. This helps avoid galvanic corrosion, anticipating damage and losses that would be potentially harmful to the environment.



3 Smart Farming

The integration of IoT technology in livestock and agriculture sectors presents numerous advantages. In livestock management, IoT devices bolster monitoring capabilities, enabling better health management by tracking

vital signs, travel distances, and reproductive cycles. Similarly, in agriculture, IoT solutions facilitate smart farming practices, optimizing crop yields and reducing environmental impact.

Use Case: Smart Farming

Precision agriculture, made possible by WISeSAT's IoT and satellite technology, enables detailed crop monitoring and efficient irrigation systems, further enhancing sustainability efforts. With IoT connectivity, farmers can access real-time data to make informed decisions tailored to their specific needs.

Implementation of smarter management decisions, such as precision pest control and detailed analysis, contributes to enhanced farming efficiency.



4 Defense: IoBT

Modern military and defense deployments involve a wide range of assets, typically in delocalized and remote situations.

The capacity to locate and understand the state of critical military assets translates into a strategic advantage regarding what decisions are made.

Large assets such as ships and armored vehicles have long been monitored via satellite

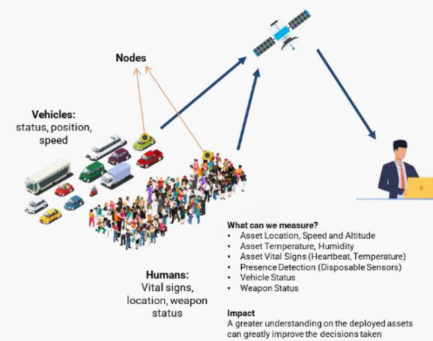
communication (“SATCOM”); however, this has left out a range of other cost-sensitive applications such as monitoring personnel, light vehicles, shipments or even weapons.

Additionally, disposable sensors can be left behind to monitor areas with sound, vibration and motion detectors. Personnel monitorization would allow real-time evolution of warfare and movements, without the need of base stations or on-site tactical communication bubbles.

Use Case: IoBT

A dedicated constellation providing strategic and independent access to space communications at an accessible cost.

A disposable audio sensor is placed in strategic locations as a unit advances; these sensors have an independent communications link via satellite, allowing monitorization anywhere and delivering strategic information on possible enemies. WISeSAT technology therefore allows for constant monitoring of a potential supply chain, fleet management, etc.



5 Defense: Distributed SIGINT & Jamming

Using advanced hardware aboard multiple satellites, WISeSAT can locate electronic devices emitting signals by analyzing radio frequencies captured from space. This capability has critical applications in defense and search & rescue operations, such as tracking ships or vehicles in remote areas. WISeSAT is continually expanding the range of signal types it can detect and improving the precision of its location capabilities.

Additionally, WISeSAT is integrating high-precision clocks into its satellites, enabling more reliable positioning services than standard GNSS (GPS) systems. While GNSS is widely used, recent conflicts have revealed its vulnerability to jamming and spoofing, leading to inaccurate or false location data. WISeSAT’s lower-altitude satellites provide more robust and secure signal transmissions, reducing susceptibility to these disruptions.

Use Case: Satellites



What can we measure?

- Location of Emission
- Strength of Emission
- Type of Emission
- Combination of Emission and EO

Impact
A greater understanding of enemy generated signals.

Identify suspicious radio signals emitted by a group of vehicles in remote locations, such as seas, deserts, borders, etc.

6 Defense: 5G Communications

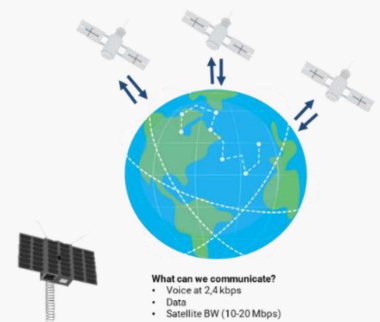
Independent communications systems for voice and data are strategic to operations in remote areas and outside national territory. Oftentimes, remote units need to rely on expensive and bulky SATCOM communications

systems or the deployment of dedicated tactical bubbles from a mobile operation center. It is crucial for countries to have dedicated military communications on a worldwide scale, and existing dedicated solutions are inaccessible.

Use Case: 5G Communications

For under €2 million, a dedicated 5G-based voice & data satellite can be launched to provide 8 – 20 minutes of coverage worldwide daily, serving hundreds of units.

Owned and operated by the defense agency including the related ground segment; operations worldwide can be supported, and units can communicate between them with a compact manpack / mobile 5W station or with the base station.



What can we communicate?

- Voice at 2,4kbps
- Data
- Satellite BW (10-20 Mbps)

Impact
Strategic advantage over non-space-bearing countries regarding communications

7 Logistics

Between 2017 and 2019, an average of 779 shipping containers were lost at sea annually. In 2020 this number increased to more than 3,000

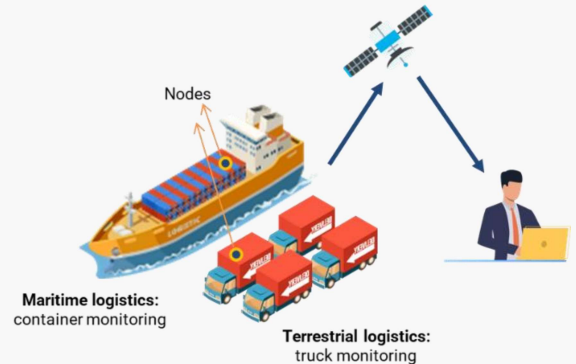
shipping containers lost at sea. Maritime and terrestrial asset monitoring regarding logistics has a huge traceability gap as there could not be

any kind of terrestrial connectivity during parts of the route. There is a big challenge when controlling the condition of food chain, cold chain, management of damaged vehicles, or

emergencies. This means there is a high risk of total or partial loss of containers and assets benefits.

Use Case: Logistics

Constant monitoring of the transportation vehicles and vessels that are carrying food would allow constant knowledge of the food condition. This would avoid food waste and enable precise information about its condition before arriving at the destination.



4.2.3. STRATEGIC INITIATIVES

To further its logistics use case, WISeSAT

tracing of assets. Benefits of dry container

WISeContainer

created the WISeContainer platform, enabling the “Track & Trace” of smart containers. This platform has the ability to disrupt the logistics industry by leveraging the process of digitalization.

Digital technology is set to be a game-changer in shipping of the future, helping to create a more sustainable and efficient industry.

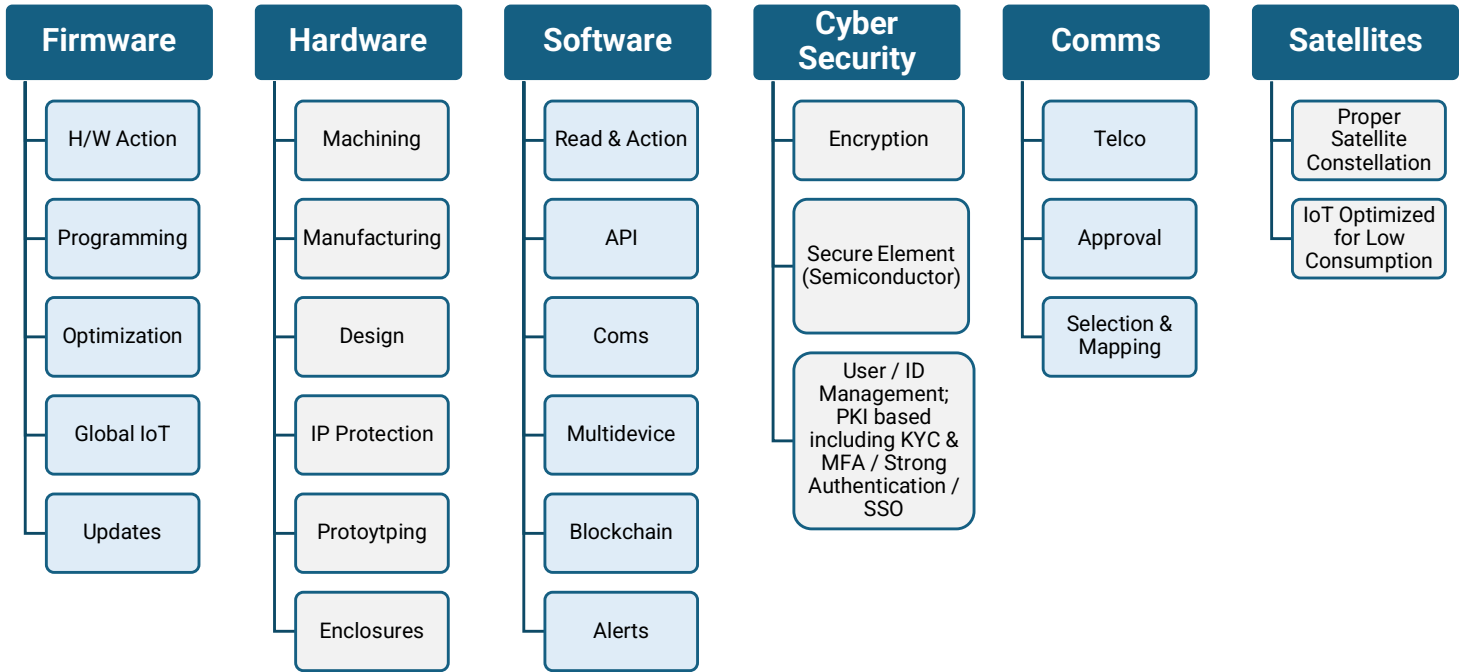
Dry Container Sensorization

This technology, through the insertion of many similar sensors in any device or application and connected to a network, allows for tracking and

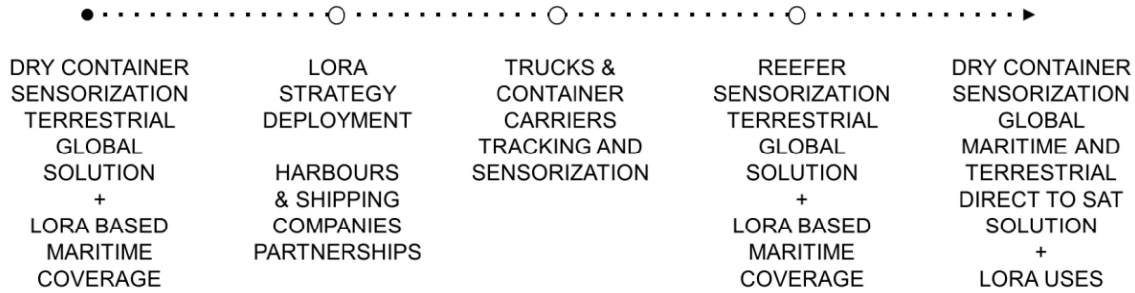
sensorization include:

- ✓ Increase of **efficiency, safety, and sustainability** of shipping supply chains.
- ✓ Optimization of supply chain by providing **highly accurate** information on container gathering **real-time data** on factors like temperature and location through GPS tracking.
- ✓ Substantial **reduction of energy and resources** wasted on shipping and repositioning of empty containers, currently totalling up to \$20 billion annually.

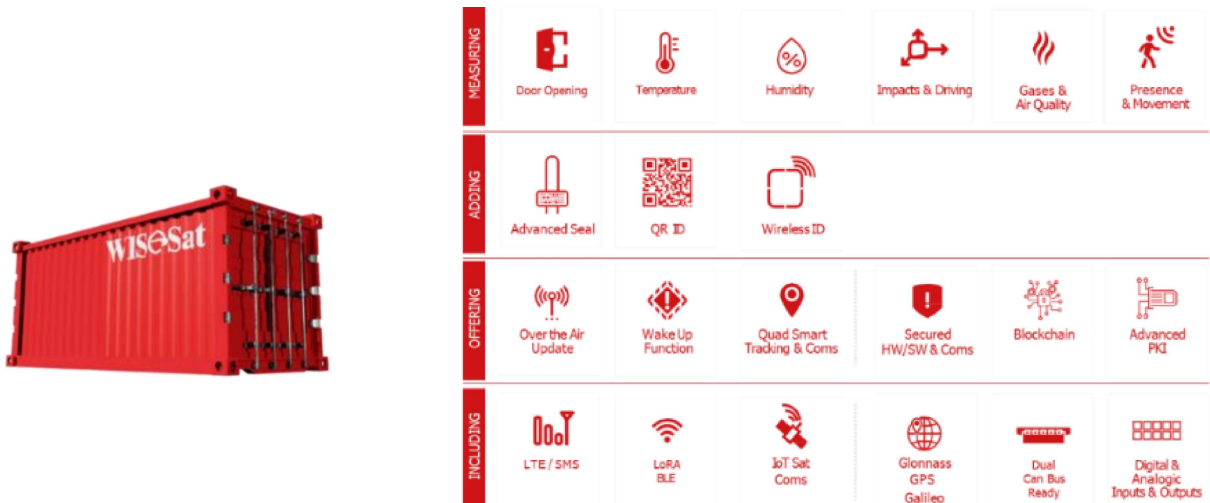
E2E Solution and Services offered, with one face to the customer:



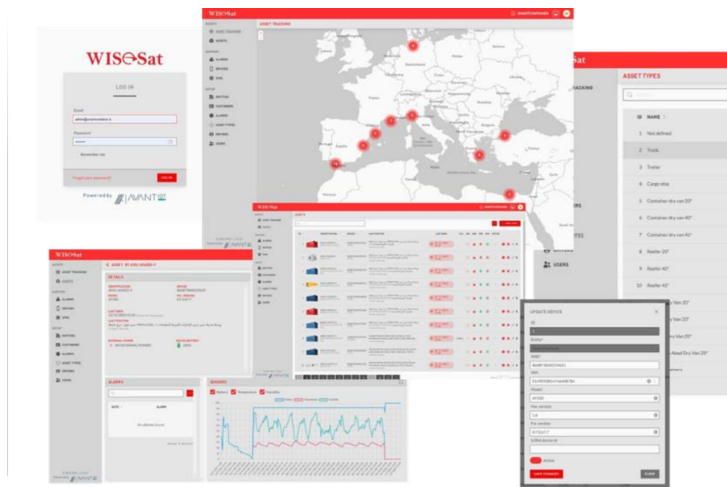
Different levels of services to address all industry requirements:



WISeContainer IoT Sensors offering:



WISeContainer Platform Available 100% connectable by API:



Bringing Blockchain to Space for Improved Satellite Services

WISeSAT project to operate blockchain nodes from space is set to transform the satellite value chain, bringing unprecedented levels of transparency, trust, and efficiency. From logistics and insurance to governmental functions and financial inclusion, the integration of blockchain and satellite technology holds

immense potential. As this innovative approach continues to develop, it promises to unlock new opportunities and drive significant advancements across multiple industries, paving the way for a more connected and efficient world.

[Learn more](#)

Secure IoT Connectivity & Climate Monitoring: With European Satellite Independence and Strategic Military Collaboration

WISeSAT is set to launch a new generation of satellites from California. This launch will mark a significant milestone in the Company's efforts to expand its satellite constellation, further enhancing its ability to provide global IoT connectivity and environmental monitoring. The

new generation of satellites are expected to offer improved performance and capabilities, supporting a wide range of applications from climate change monitoring to disaster management and smart agriculture.

[Learn more](#)

Pioneering IoT Satellite Constellations for Climate Change Monitoring

Space technology has become a critical asset in the global fight against climate change. Satellites are invaluable for monitoring, modeling, and understanding various aspects of the climate, biodiversity, and the changing

states of oceans, forests, and glaciers. Additionally, they play a pivotal role in streamlining human activities to reduce greenhouse gas emissions, better manage ecosystems, and promote biodiversity.

[Learn more](#)

Strategic Partnership with Swiss Armed Forces

Building upon the comprehensive survey conducted in 2023 on behalf of armasuisse, the R&D and procurement agency of the Swiss Ministry of Defense, WISeSAT.Space has garnered invaluable insights into the capabilities and potential of small satellites for IoT and signals intelligence (SIGINT)

applications for the Swiss Armed Forces. The mission was to analyze space technologies relating to IoT and secure communications for national security and defense applications, tailored to the Swiss Space Domain's unique needs.

[Learn more](#)

Significant Expansion of Strategy of WISeSAT

The strategic expansion includes the scheduled launch of new satellites in the fourth quarter of 2024, alongside the introduction of groundbreaking technology aboard its latest generation of Low Earth Orbit (LEO) satellites. This initiative is designed to meet the extensive

IoT deployment needs across various sectors, including Smart Farming, Energy, and Logistics, ensuring reliable and secure data transmission anywhere on Earth.

[Learn more](#)

4.3 OUR SUBSIDIARIES – WISe.ART

4.3. WISe.ART

<https://platform.wise.art>



A fully-fledged digital asset marketplace leveraging NFT-technology, designed to connect everyone involved in the arts industry.

4.3.1. OVERVIEW

In the first half of 2024, WISe.ART reached new heights with new partnerships and several major charity events. The platform continues to grow its community of international artists & collectors, with over 2,500 works and a total value of over USD \$32 million.

Publicly, WISe.ART increased its structured visibility on social media, and contributed to many public events locally and throughout Europe.

WISe.ART strives to deliver white-glove support to those who have entrusted the platform with their art and valuables, and to meet with collectors to accompany them in the art choices.

2,500+
Works

\$32M+
Total Value

4.3.2. ABOUT WISE.ART

WISE.ART is a comprehensive multi-blockchain secured marketplace designed to connect all actors involved in the fine arts and luxury industry.

WISE.ART aims to revolutionize the art world by combining cutting-edge technology with the timeless beauty of artistic expression.

Key features of WISE.ART:

- ✓ **Digital Certificates of Authenticity (NFTs):** WISE.ART's unique concept of a digital certificate of authenticity represented as a non-fungible token (NFT). These NFTs live forever on the blockchain, unchanged and unchallengeable, serving as proof of the buyer's ownership of a specific piece of art.
- ✓ **Authenticated and Signed Digital Assets:** WISE.ART ensures that each digital asset is authenticated and signed, creating an irreversible link to the physical object. This process provides proof of ownership, provenance, and contracts outlining future use and monetization streams.
- ✓ **New Partnerships:** Hedera / Hashgraph and WISE.ART are working on the tokenization of shares and the creation of a new utility coin. Hedera has introduced several exciting projects throughout the year like Mediterraneanopolis and confirmed agreement for the tokenization of physical assets with the IMA and La Bourse in Paris, France.
- ✓ **Linking Digital Assets to Physical Objects:** The NFTs not only represent the digital asset but also link it irreversibly to a physical object, enhancing transparency and trust in the art market and the UNHNI community.
- ✓ With WISEID technology, and WISE.ART's innovative IoT developments, it is currently writing a **unique luxury lifestyle AI language for ultra-high-net-worth individuals** ("UHNWI") to privately consolidate dreams, needs and ideas into a personalized intelligent agent for convenience.

4.3.3. WISE.ART Userbase

WISE.ART is accessible to a diverse audience within the arts and luxury industry. Key groups that benefit from using WISE.ART include:

- **Artists and Creators:** WISE.ART provides a platform for artists and creators to showcase their work, create digital certificates of authenticity (NFTs), and link their digital assets to physical objects. Artists can leverage this technology to protect their intellectual property and establish provenance.

- **Collectors and Buyers:** Art collectors and buyers can use WISe.ART to verify the authenticity of artworks they acquire. The NFTs serve as irrefutable proof of ownership and can enhance the value of their collections.
- **Galleries and Museums:** Institutions in the art world can collaborate with WISe.ART to digitize their collections, create NFTs for artworks, and ensure transparency in transactions. This technology can revolutionize how galleries and museums manage and display art.
- **Auction Houses and Dealers:** Auction houses and dealers can integrate WISe.ART into their processes to authenticate and track artworks. The secure NFTs provide confidence to both sellers and buyers during auctions and sales.
- **Logistics and Insurance Companies:** By using digitalized certification, responsibility can be spread more evenly as items can be tagged and recognized with a simple scan. Collected Data about each piece can be processed, and the information cannot be altered nor tampered with.
- **Art Enthusiasts and Curators:** Anyone passionate about art can explore WISe.ART's marketplace, discover new artists, and engage with the art community. Curators can curate digital exhibitions and promote emerging talents. The community, which continues to grow on social media, allows multiple protagonists to exchange and interact thus building a more stable way of collecting art.

4.3.4. H1 2024 EVENTS

Davos 2024

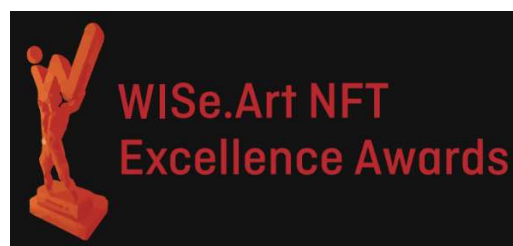
WISe.ART led a panel together with Monty Metzger, Founder of the Lichtenstein Stock Exchange; Andrew Forson of Hedera; Antoine Sarraulte, Founder of Wakweli; Cindia Luest, Creator of Spice Journeys; Angela Pan of EyeExpo; Georg Bak of ArtMeta, and Yves Holenstein of Bitcoin Suisse. The panel discussed the importance of IoT and the tokenization of valuable assets.

10 Awards were distributed to the most popular and active digital artists who entrusted WISe.ART with their remarkable works:

Dlela Lombard, Hervé Grauman, Boris Rabusseau, Ylan Anoufa, Phillip-Emmanuel

Pauli, D4CG aka Audry, Takuo Matsuzawa, Adinda Putra, YouNs, and Pedro Sandoval.

Ylan Anoufa "Bears" Exhibition: A display of miniature bears as well as 50 WISeKey's 25th anniversary champagne bottles with hand painted customized labels by Ylan were displayed for sale during the event with a screen displaying the award nominees.



WISe.ART's **partnership with GAM Renaissance Art** was launched during Davos this year; an exhibition at the GAM Gallery in Rome with Pedro Sandoval preceded this event. The tokenization of Old Masters and, in particular, Italian Renaissance was celebrated with 200 gold medals designed by Pedro Sandoval.

ExpoEye, the Chinese delegation, was awarded 20 medals, establishing an initial relationship between the groups which is expected to blossom when China opens its doors to web3. In this respect, Ylan proceeded to visit Chinese vineyards for a merge with French winemakers, a venture for which WISe.ART could tokenize assets.

Cryptoverse Island events

▶ **WISe.ART Cryptoverse Series:** monthly phygital exhibitions open to the public continued throughout the year with new partnerships signed with Gibraltar's Xapo Bank. The exhibitions continue for a further month at the SoHo Hotel in Sotogrande and, for some, at La Reserve in Malaga together with Marianne Steneholm. These events allow WISe.ART to collaborate with local artists at a minimized cost and feature all works on its platform for the artists.

Nasdaq Ceremony

WISe.ART and Grupo Pro Arte y Cultura presented the 2024 Annual Mayte Spinola Gold Medals Awards at the Nasdaq headquarters in New York.

This event received extensive coverage in the Spanish media and was attended by several UHNWI.



Nous, les Ambitieuses!

WISe.ART artist Ylan Anoufa was invited to run a children's workshop at the Central Station in Monte Carlo in the presence of SAS Albert of Monaco.

WISe.ART, Hedera, and Devy Man attended the event and discussed further events for next year in relation to the environment and education.

Cannes Film Festival

WISe.ART artist Devy Man won the Jury Special Prize for AI short movie at the Cannes Film Festival. His short story has been nominated in several international film festivals since. WISe.ART will upload each frame of the film and create utility tokens to accompany the artworks. This will be part of the previously announced UHNWI luxury web3 space to be developed. A further partnership is expected to be put in place with LVH Global and Kimani Life.



NFC Lisbon

WISe.ART artist RVig won the Arab Bank 2024 Award with his piece entitled Fleurs du Mal by Charles Baudelaire.

In 2023, he created a similar piece for the ONUART event in celebration of the 75th anniversary of Human Rights, which he donated via WISe.ART. It was the first digital artwork to be featured in the UN art collections, together with Who's Next by WISe.ART collaboration between Boris Rabusseau and Hervé Grauman.

Roma: Sustainable Fashion Innovation Summit

WISe.ART was again invited to speak at the summit this year. The speech covered logistics and smart containers with respect to innovative solutions to preserve the environment including gender free fashion collections, web3 spaces, and provenance history coding.

Geneva Mapping Festival with WISe.ART Artists

Cristobal del Puey and Raoul Pictor aka Hervé Grauman (virtual artist celebrating 30 years of creativity) were invited for the second time to the Geneva Mapping Festival. WISe.ART was featured in a Spanish documentary about Las Meninas by Velasquez vs contemporary art and technology inspiration. The interview is streamed on YouTube together with local celebrities Vivianne de Witt and Joseph Farine.



Basel and ArtMeta Digital Art Mile

WISe.ART met with Refik Anadol alongside WISe.ART artists Boris Rabusseau and RVig, as well as Marcia Baumgartner of Mirabaud Bank. WISe.ART is in discussion to tokenize their corporate collection.

The first ever Digital Art Mile was a great success; WISE.ART is expected to participate next year with its new revamped platform to introduce its utility coin.

The Good Token Society

WISE.ART was invited to speak on several occasions in the Society's calendar of events, as well as participating in breakfast brainstorming sessions with the Geneva governing authorities, especially those responsible for the implementation of AI and public data protection. WISE.ART also participated in two TV talk shows with Dukascopy Bank.



Le Cercle des Chefs d'Entreprise

Once more, WISE.ART was invited to present its technology to Geneva-based entrepreneurs. The evening was well attended and followed by dinner where WISE.ART artists presented digital and physical works to the guests and members.

4.3.5. UPCOMING EVENTS

Vontobel

WISE.ART is invited to present its new technology at Vontobel Bank in Lausanne for their UHNWI clientele and asset managers on August 20, 2024.

Raising global awareness of the benefits of technology and art integration is one of

WISE.ART's initiatives; this is reflected by upcoming and historical webinars, conference attendances, and presentations at global and local events.

Espace L Collaboration

Wise.ART, alongside Espace L, a prominent contemporary art gallery located in Geneva, Switzerland, will host a series of informational evenings throughout August. The discussions will feature "Who's Next", a collaboration between Hervé Graumann and Boris Rabusseau, two Geneva based artists who work with computers to create generative art. "Who's

Next" ONUART was donated to the UN last year for the 75th anniversary of the Human Rights Charter. The piece is fragmented into 196 lines to represent each delegate.

This series of events is demonstrative of WISE.ART's dedication to raising awareness of the marketplace, the artists represented, and the development of Web 3.0.

Webinars

From September to December 2024, WISe.ART will host a series of four webinars with a view to continue to inform its community and broaden its audience.

With a slew of successful events in H1 2024 and many more planned before year-end, WISe.ART

continues to make strides on raising awareness of the platform whilst gaining the trust of artists and collectors by presenting state-of-the-art innovation in technology.

Featured Work

WISe.ART features over 2,500 artworks by over 200 artists worldwide, ranging from traditional art to video art, to 3-dimensional AI productions. More than half of the featured works are linked to physical pieces which can be shipped

anywhere in the world. Trackable chips signaling changes in temperature, humidity, movement, or shock can be applied for safer logistics and reduced insurance costs.

4.3.6. WISe.ART OUTLOOK

Phase 3 Platform Enhancement

With the support of Hedera, WISe.ART is in the process of developing a new platform for UHNWI, offering a turn-key operation of fully comprehensive lifestyle opportunities. The platform will use AI to learn UHNWI likes and dislikes to tailor offerings.

Dedal-E

A new platform is being launched in September as a comprehensive registry for digital art galleries and artists; WISe.ART will be an early adopter. The platform will offer a solid social media presence for WISe.ART, as well as offering its artists more creative tools at their disposal.

WISe.ART has already become an ambassador for the domain and can offer its artists and community members the extension. This is expected to be increasingly useful as WISe.ART continues its development of various derivative activities and partnerships.

WISe.ART Token

The token will be an enhancement for community membership, rewarding users and opening new opportunities for collectors. Developments including token name will be announced as determined.

WISe.ARTBANK

A concept to introduce the WISe.ART token, as well as other financial assets for art collectors and crypto adepts. The idea is to capitalize the enterprise with a solid art collection of Italian modernism as well as renaissance art (yet to be identified).

Mediterranopolis

A physical smart city to be built in La Linea with For Better Worlds, an ONG described as “Philanterprise” and introduced to WISe.ART by Hedera. This project will also be linked to the tokenization of high-end rare valuables.

4.4 OUR SUBSIDIARIES - SEALCOIN

4.4. SEALCOIN

www.sealcoin.ai



A Revolution in Transactional-IoT – Innovative cryptotoken tailored for the Internet of Things (IoT) and Machine-to-Machine (M2M) communication.

4.4.1. OVERVIEW

SEALCOIN introduces a revolutionary services platform designed to **empower devices within the Internet of Things (IoT) ecosystem to autonomously transact and coordinate service-for-payment exchanges**. At the heart of this ecosystem lies its dedicated utility token, SEALCOIN, which serves as the primary medium for facilitating transactions and interactions among devices and participants.

The SEALCOIN platform addresses the growing need for seamless and secure transactions within the IoT landscape (Transactional IoT or t-IoT), where devices increasingly rely on

interconnected services for their functionality. By leveraging blockchain or Decentralized Ledger Technology and smart contracts, SEALCOIN offers the access to a decentralized infrastructure that enables devices to negotiate,

SEALCOIN offers the access to a decentralized infrastructure that enables devices to negotiate, execute, and settle transactions independently, without the need for human intervention.

execute, and settle transactions independently, without the need for human intervention.

Key features of the SEALCOIN platform include:

- **Autonomous Transaction Facilitation:** SEALCOIN empowers IoT devices to initiate and complete transactions autonomously, streamlining the process of service provision and payment settlement.
- **Smart Contract Integration:** Through the utilization of smart contracts, SEALCOIN ensures the secure and transparent execution of agreements between parties, enhancing trust and reducing transactional friction.
- **Enhanced Security and Privacy:** SEALCOIN leverages blockchain technology to provide robust security measures and safeguard sensitive data in the digital realm, ensuring the integrity and confidentiality of transactions within the ecosystem, secured physically through the Secure Element of a device.
- **Scalability and Interoperability:** With a focus on scalability and interoperability, SEALCOIN aims to support a diverse range of IoT devices and services, facilitating seamless integration and interaction across various platforms and protocols.
- **Global Accessibility:** SEALCOIN's utility token serves as a universal medium of exchange within the platform, enabling seamless transactions and interactions among IoT devices and participants worldwide.

In summary, **SEALCOIN represents a groundbreaking solution that harnesses the power of blockchain technology to revolutionize transactions within the IoT ecosystem.** By enabling devices to transact

autonomously and organize service-for-payment exchanges, SEALCOIN paves the way for a more efficient, secure, and interconnected future for t-IoT stakeholders.

4.4.2. INTRODUCTION

► Background

SEALCOIN is a pioneering entity poised to revolutionize decentralized services. Backed by over 25 years of industry-leading experience in developing secure semiconductor chips, embedded firmware, and trusted hardware provisioning services, SEALCOIN is establishing itself as a trusted partner in safeguarding digital assets.

Through the seamless integration of Decentralized Ledger Technology (DLT) components, SEALCOIN bridges the gap between physical secure infrastructure and the digital integrity of DLT. This fusion crystallized around cryptographic structures not only ensures the highest level of security and reliability, but also paves the way for a safer and more connected world.

By prioritizing security, transparency, and trust, SEALCOIN is leading the charge towards a future where decentralized services redefine the boundaries of innovation and connectivity.

Together, we embark on a transformative path towards a future where the physical and digital worlds converge seamlessly, ushering in an era of unparalleled connectivity and safety.

► Proof-of-Concept

Machine-to-Machine (M2M) Proof of Concept (PoC) enables the disintermediation of service providers for interconnected devices.

In generic terms, SEALCOIN uses the technology inside a semiconductor's device to validate and verify a transaction. The Secure

Element embedded in the device protects the private key and the certificate representing the device's unique identity. The key is using the same elliptic curve cryptography (ECC) used on a Decentralized Ledger Technology (DLT) and therefore the device can simultaneously authenticate and sign a transaction onchain.

The process can be described as follows:

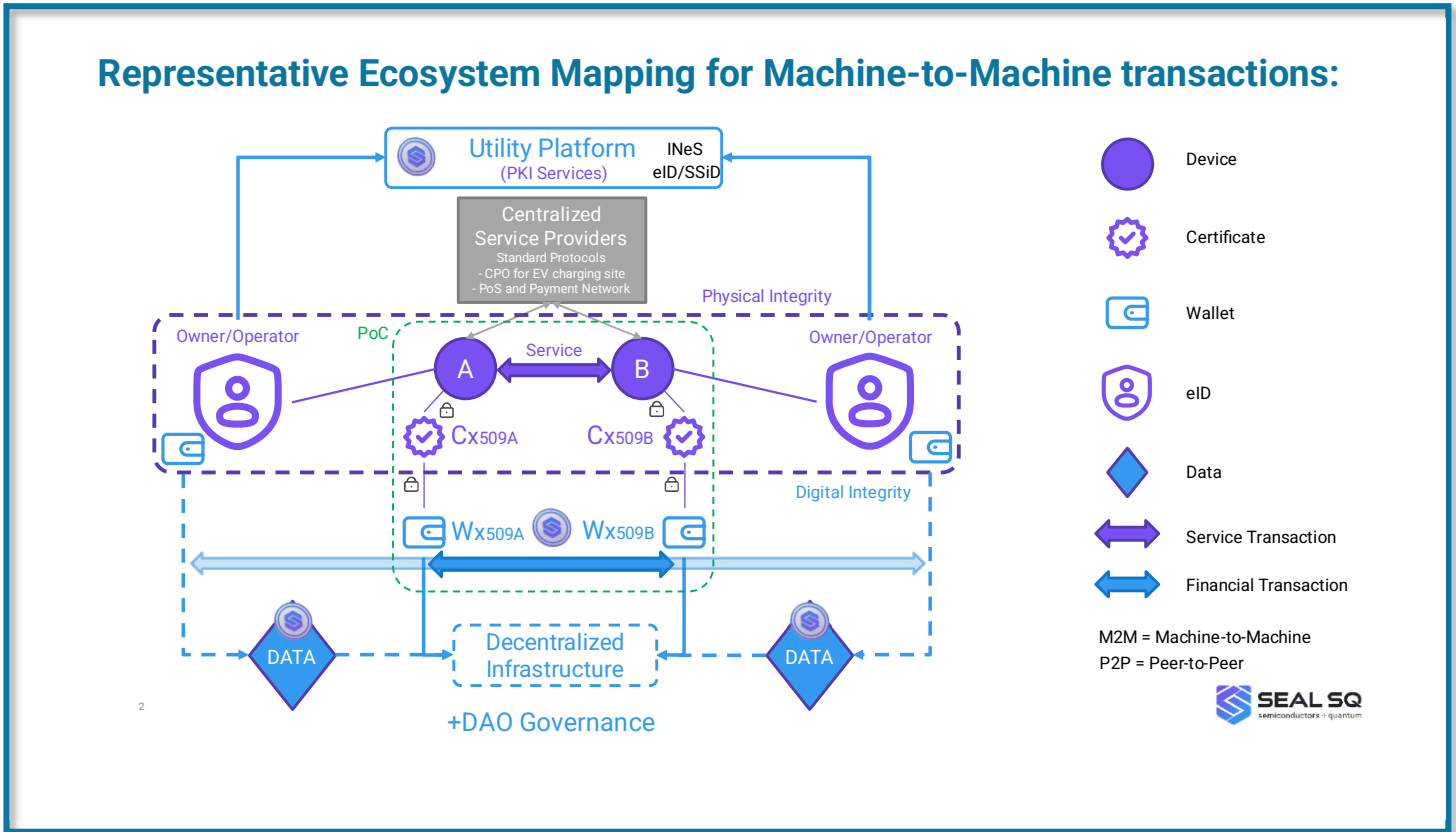
- ✓ **Transaction Validation and Verification:** The semiconductor device is equipped with cryptographic capabilities that enable it to validate and verify transactions. This involves signing the transaction, always keeping the private key in a secure element that is resistant to both physical and logical attacks, thus keeping the funds secured. The SEALCOIN team is already working on integrating postquantum resistant Secure Element capabilities.
- ✓ **Transaction Signing:** Upon successful validation and verification of the transaction, the semiconductor device generates a digital signature using elliptic curve cryptography. This signature serves as a proof of authorization for the transaction.
- ✓ **Decentralized Ledger Technology Integration:** Simultaneously, the semiconductor device uses a DLT (such as a blockchain) to store the transaction in a decentralized manner. It signs and sends the transaction to a DLT network node that will then broadcast it to the rest of the network. The DLT serves as a distributed and immutable ledger where transaction records are stored securely and transparently.
- ✓ **Elliptic Curve Cryptography:** Both the validation and signing processes utilize elliptic curve cryptography, a cryptographic algorithm based on the properties of elliptic curves over finite fields. This allows for efficient and secure generation of digital signatures and ensures the integrity of the transaction data, both physically and digitally.

By leveraging the capabilities of the semiconductor device and elliptic curve

cryptography, transactions can be validated, verified, and securely recorded on a DLT in a

seamless and efficient manner, offering enhanced security and transparency in digital transactions.

The PoC and a comprehensive demo were released in July 2024, showcasing the innovative capabilities of SEALCOIN in enabling Service vs Payment transactions between machines.



4.4.3. SEALCOIN TOKEN

The M2M PoC can only be achieved through a token associated with a device that is certified by a secure microcontroller storing its digital certificate, and where the token's software can interact with the SEALCOIN platform to securely organize and execute transactions.

Therefore, SEALCOIN is planning for its dedicated token, that will serve a dual IoT purpose, fulfilling both utility and payment functions.

Utility

- **SEALCOIN will provide digital access to applications and services offered on the SEALCOIN platform. Through blockchain-based infrastructure, users can utilize SEALCOIN tokens to access and interact with various IoT applications and services seamlessly.**
- **Users will be able to leverage SEALCOIN tokens to unlock features, access premium content, or utilize specialized services within the SEALCOIN ecosystem. These tokens act as digital keys, granting users permission to engage with specific functionalities offered by secured devices and services connected to the platform.**
- **The utility feature of SEALCOIN tokens will ensure that users have convenient and secure access to a wide range of t-IoT applications and services, facilitating seamless integration and interaction within the IoT ecosystem.**

Payment

Payment Features

- ✓ SEALCOIN tokens will also serve as a means of payment within the SEALCOIN ecosystem. Users will be able to use SEALCOIN tokens to acquire goods and services offered by IoT devices and service providers on the platform.
- ✓ Additionally, SEALCOIN tokens will facilitate the transfer of money or value between users, enabling peer-to-peer transactions within the t-IoT ecosystem. Users can exchange SEALCOIN tokens for goods, services, or other tokens securely and efficiently.
- ✓ The payment feature of SEALCOIN tokens will enhance the efficiency and liquidity of transactions within the t-IoT ecosystem, providing a seamless and decentralized payment solution for IoT stakeholders.

Volatility Management of Payment Features

The aim of issuing a token is to be able to capture its intrinsic value within the designed ecosystem, so that the market participants can benefit from it.

The best way to store this value is in designing a Fixed Token supply, which will embed Scarcity

and Value Appreciation for using the token. In other words, the SEALCOIN team will inject an inflation mechanism, where, as long as the token usage grows in (volume of participants, volume of transactions, number of use-cases), its intrinsic value will be captured within its face

value, having a fixed amount of token for a bigger demand.

► **Risk Mitigation**

To mitigate its inherent volatility that represents a risk for the Participants' treasury management, in the context of purchasing a service at a fixed price (devices, certificates and other services...), the SEALCOIN team will implement mechanisms to have a transaction price pegged to a local currency (USD, EUR...) and therefore, fix the services' price to regular Fiat volatility.

In summary, the SEALCOIN token will be designed to combine both utility and payment features to provide users with digital access to t-IoT applications and services while also serving as a convenient and secure means of payment within the SEALCOIN ecosystem. By leveraging blockchain technology, SEALCOIN tokens will enable seamless integration, interaction, and transactions within the IoT landscape, fostering innovation and efficiency in t-IoT-related activities.

Tokenomics

Token Supply details will be provided at a later stage.

Details of SEALCOIN token and its distribution for Acquisition and Trading purposes: Information on how to acquire and trade SEALCOIN token will be provided once regulatory process is concluded.

4.5 OUR SUBSIDIARIES - WISeID

4.5. WISeID

www.wiseid.com



Offers digital identities and security services to protect electronic transactions and personal data.

4.5.1. OVERVIEW - WISEID OUR TRUST SERVICES VERTICAL

Our Trust Services Vertical is comprised of a full range of managed cloud services to enable trusted and verified digital identities for people, applications and objects.

4.5.2. MILESTONES FOR THE FIRST HALF OF 2024:

Optimization of the “Unified Trust Center”

WISeKey keeps evolving and improving its High Security Trust Center, which serves as the foundation to deliver trust services both internally: serving the needs of SEALSQ (PKI for IoT) and other initiatives of WISeKey SA, and externally: serving global customers. This Unified Trust Center brings greater advantages



to the group, such as cost reduction and unified high-security practices.

Expansion of the Managed PKI customer base

WIS@key has significantly expanded its business related to Transport Layer Security (TLS, a widely adopted security protocol designed to facilitate privacy and data security

for communications over the internet) and Personal Digital Certificates, with higher footprint in regions such as APAC, thanks to key channel agreement.

Improvement of the WIS@ID platform for personal digital identity

WIS@ID is now recognized as a fully-fledged solution for personal identity, which has been adopted by the Government of Seychelles as its National ID platform. WIS@ID has been enriched

with new features such as Document Signing, and is evolving to add Web 3.0 capabilities, such as Distributed Identity.

4.5.3. USE CASES

SeyID: National ID for Seychelles

During 2024 WIS@key has successfully expanded the capabilities of SeyID, including the introduction of a “Document Wallet” feature, which allows Seychellois citizens to receive official documents issued by the Government, such as birth certificates or vaccination proofs,

in digital format, from the “SeyID App”, eliminating the need to carry the physical documents in their daily activities.



TLS Business: CertifyID TLS Manager

During 2024 WIS@key has enhanced its capabilities thus becoming an incumbent player in the business around TLS (SSL) certificates. A new platform allows the delivery of B2B services, such as “Managed PKI” services, attending the needs of both large consumers and resellers.





5. FINANCIAL REPORT

CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

OF

WISEKEY INTERNATIONAL HOLDING AG

(unaudited)

CONTENTS

Page

1. Condensed Consolidated Statements of Comprehensive Income/(Loss)	58
2. Condensed Consolidated Balance Sheets	60
3. Condensed Consolidated Statements of Changes in Shareholders' Equity	62
4. Condensed Consolidated Statements of Cash Flows	64
5. Notes to the Condensed Consolidated Financial Statements	66

1. Condensed Consolidated Statements of Comprehensive Income/(Loss)

USD'000	Unaudited 6 months ended June 30,		Note ref.
	2024	2023	
Net sales	5,174	15,107	26
Cost of sales	(3,834)	(6,924)	
Depreciation of production assets	(228)	(84)	
Gross profit	1,112	8,099	
Other operating income	178	21	27
Research & development expenses	(2,942)	(2,151)	
Selling & marketing expenses	(3,967)	(3,887)	
General & administrative expenses	(8,518)	(7,968)	
Total operating expenses	(15,249)	(13,985)	
Operating loss	(14,137)	(5,886)	
Non-operating income	1,129	598	29
Debt conversion expense	(21)	(484)	22
Interest and amortization of debt discount	(529)	(119)	22
Non-operating expenses	(584)	(896)	30
Loss before income tax expense	(14,142)	(6,787)	
Income tax expense	(1,310)	(322)	31
Net loss	(15,452)	(7,109)	
Less: Net loss attributable to noncontrolling interests	(5,982)	(141)	
Net loss attributable to WISeKey International Holding AG	(9,470)	(6,968)	
<u>Earnings per Class A Share (USD)</u>			33
Earnings per Class A Share			
Basic	(0.45)	(0.25)	
Diluted	(0.45)	(0.25)	
Earning per Class A Share attributable to WISeKey International Holding Ltd			
Basic	(0.27)	(0.24)	
Diluted	(0.27)	(0.24)	
<u>Earnings per Class B Share (USD)</u>			33
Earnings per Class B Share			
Basic	(4.48)	(2.49)	
Diluted	(4.48)	(2.49)	
Earning per Class B Share attributable to WISeKey International Holding Ltd			
Basic	(2.74)	(2.44)	
Diluted	(2.74)	(2.44)	

USD'000	Unaudited 6 months ended June 30,		Note ref.
	2024	2023	
Other comprehensive income / (loss), net of tax:			
Foreign currency translation adjustments	(515)	(1,118)	
Defined benefit pension plans:			23
Net gain arising during the period	34	16	
Other comprehensive loss	(481)	(1,102)	
Comprehensive loss	(15,933)	(8,211)	
Other comprehensive income / (loss) attributable to noncontrolling interests	45	(63)	
Other comprehensive loss attributable to WISeKey International Holding AG	(526)	(1,039)	
Comprehensive loss attributable to noncontrolling interests	(5,937)	(204)	
Comprehensive loss attributable to WISeKey International Holding AG	(9,996)	(8,007)	

The accompanying notes are an integral part of these condensed consolidated financial statements.

2. Condensed Consolidated Balance Sheets

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023 (unaudited)	Note ref.
ASSETS			
Current assets			
Cash and cash equivalents	26,293	15,311	7
Restricted cash, current	111	-	
Accounts receivable, net of allowance for credit losses	2,041	5,471	8
Notes receivable from employees and related parties	53	63	9
Inventories	2,772	5,230	10
Prepaid expenses	1,669	1,290	
Government assistance	1,826	1,718	11
Other current assets	759	1,008	12
Total current assets	35,524	30,091	
Noncurrent assets			
Deferred income tax assets	1,775	3,077	31
Deferred tax credits	104	15	
Property, plant and equipment net of accumulated depreciation	3,115	3,392	13
Intangible assets, net of accumulated amortization	94	96	14
Operating lease right-of-use assets	1,781	2,052	15
Goodwill	8,317	8,317	16
Equity securities, at cost	471	486	17
Other noncurrent assets	263	275	18
Total noncurrent assets	15,920	17,710	
TOTAL ASSETS	51,444	47,801	
LIABILITIES			
Current Liabilities			
Accounts payable	12,492	12,863	19
Notes payable	4,160	4,164	20
Convertible note payable, current	49	190	22
Deferred revenue, current	100	217	26
Current portion of obligations under operating lease liabilities	630	638	15
Income tax payable	-	4	
Other current liabilities	698	832	21
Total current liabilities	18,129	18,908	
Noncurrent liabilities			
Bonds, mortgages and other long-term debt	1,863	1,820	22
Convertible note payable, noncurrent	9,313	1,519	22
Deferred revenue, noncurrent	22	24	26
Operating lease liabilities, noncurrent	1,138	1,443	15
Employee benefit plan obligation	2,963	3,001	23
Other noncurrent liabilities	3	2	
Total noncurrent liabilities	15,302	7,809	
TOTAL LIABILITIES	33,431	26,717	

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023 (unaudited)	Note ref.
Commitments and contingent liabilities			24
SHAREHOLDERS' EQUITY			
Common stock - Class A	16	400	25
Par value: CHF 0.01 and CHF 0.25			
Authorized - 2,000,880 and 2,000,880 shares			
Issued and outstanding - 1,600,880 and 1,600,880 shares			
Common stock - Class B	359	8,170	25
Par value: CHF 0.10 and CHF 2.50			
Authorized - 6,194,267 and 6,194,267			
Issued - 3,365,560 and 3,076,150			
Outstanding - 3,292,180 and 2,954,097			
Treasury stock, at cost (73,380 and 122,053 shares held)	(548)	(691)	25
Additional paid-in capital	323,973	295,716	
Accumulated other comprehensive income / (loss)	3,515	4,041	
Accumulated deficit	(290,431)	(280,961)	
Total shareholders' equity attributable to WISeKey shareholders	36,884	26,675	
Noncontrolling interests in consolidated subsidiaries	(18,871)	(5,591)	
Total shareholders' equity	18,013	21,084	
TOTAL LIABILITIES AND EQUITY	51,444	47,801	

The accompanying notes are an integral part of these condensed consolidated financial statements.

3. Condensed Consolidated Statements of Changes in Shareholders' Equity

Unaudited 6 months ended June 30,

USD'000 (except for share numbers)	Number of common shares			Common Share Capital		Total share capital	Treasury Shares	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income / (loss)	Total stockholders' equity	Noncontrolling interests	Total equity	Note ref.
	Class A	Class B	Class A	Class B										
As at December 31, 2022	1,600,880	2,005,890	400	5,334	5,734	(371)	280,597	(265,635)	5,935	26,260	(2,235)	24,025		
Common stock issued	-	-	-	-	-	-	(31)	-	-	(31)	-	(31)		
Options exercised	-	13,879	-	37	37	-	(16)	-	-	21	-	21		
Stock-based compensation	-	-	-	-	-	-	197	-	-	197	-	197		
Changes in treasury shares	-	300,000	-	820	820	(820)	-	-	-	-	-	-		
L1 Facility	-	578,481	-	1,492	1,492	87	886	-	-	2,465	-	2,465		
Anson Facility	-	177,899	-	487	487	414	1,896	-	-	2,797	-	2,797		
Dividend in kind	-	-	-	-	-	-	-	34	-	34	(34)	-		
Net loss	-	-	-	-	-	-	-	(6,968)	-	(6,968)	(141)	(7,109)		
Other comprehensive loss	-	-	-	-	-	-	-	-	(1,039)	(1,039)	(63)	(1,102)		
As at June 30, 2023	1,600,880	3,076,149	400	8,171	8,571	(690)	283,529	(272,569)	4,895*	23,735	(2,473)	21,262		

* Rounded

Unaudited 6 months ended June 30,

USD'000 (except for share numbers)	Number of common shares				Common Share Capital		Total share capital	Treasury Shares	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income / (loss)	Total stockholders' equity	Noncontrolling interests	Total equity	Note ref.
	Class A	Class B	Class A	Class B	Class A	Class B									
As at December 31, 2023	1,600,800	3,076,150	400	8,170	8,570	(691)	295,716	(280,961)	4,041	26,675	(5,591)	21,084			
Stock-based compensation	-	-	-	-	-	-	284	-	-	284	-	284	-	284	
L1 Facility	-	-	-	-	-	143	24	-	-	167	-	167	-	167	22
Anson Facility	-	289,410	-	817	817	-	(817)	-	-	-	-	-	-	-	22
L1 SPA	-	-	-	-	-	-	9,056	-	-	9,056	-	9,056	(3,410)	5,646	22
Anson SPA	-	-	-	-	-	-	9,236	-	-	9,236	-	9,236	(3,966)	5,270	22
Change in par value of shares	-	-	(384)	(8,628)	(9,012)	-	9,012	-	-	-	-	-	-	-	25
Change in ownership of WISE.ART	-	-	-	-	-	-	1,462	-	-	1,462	-	1,462	33	1,495	
Net loss	-	-	-	-	-	-	-	(9,470)	-	(9,470)	-	(9,470)	(5,982)	(15,452)	
Other comprehensive income / (loss)	-	-	-	-	-	-	-	-	(526)	(526)	-	(526)	45	(481)	
As at June 30, 2024	1,600,800	3,365,560	16	359	375	(548)	323,973	(290,431)	3,515	36,884	(18,871)	18,013			

The accompanying notes are an integral part of these condensed consolidated financial statements.

4. Condensed Consolidated Statements of Cash Flows

Unaudited 6 months ended June
30,

USD'000	2024	2023
Cash Flows from operating activities:		
Net loss	(15,452)	(7,109)
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation of property, plant & equipment	366	185
Amortization of intangible assets	-	1
Debt conversion expense	21	484
Interest and amortization of debt discount	529	119
Stock-based compensation	242	197
Inventory obsolescence impairment	243	257
Increase (decrease) in defined benefit pension liability, net of unrealized gains and losses	(39)	(11)
Income tax expense, net of cash paid	1,310	315
Other non-cash expenses /(income)		
Expenses settled in equity	928	21
Unrealized and non-cash foreign currency transactions	(516)	258
Other	-	(204)
Changes in operating assets and liabilities, net of effects of businesses acquired		
Decrease (increase) in accounts receivables	3,437	(1,059)
Decrease (increase) in inventories	2,215	(2,081)
Decrease (increase) in government assistance	(107)	(488)
Decrease (increase) in other current assets and prepaids, net	(130)	82
Decrease (increase) in other noncurrent assets, net	11	(12)
Increase (decrease) in accounts payable	(371)	787
Increase (decrease) in deferred revenue, current	(117)	(68)
Increase (decrease) in current portion of obligations under operating lease liabilities	(8)	17
Increase (decrease) in income taxes payable	(4)	(7)
Increase (decrease) in other current liabilities	(134)	91
Increase (decrease) in deferred revenue, noncurrent	(2)	(1)
Increase (decrease) in operating lease liabilities, noncurrent	(305)	(222)
Increase (decrease) in other noncurrent liabilities	(1)	(5)
Net cash provided by (used in) operating activities	(7,884)	(8,043)
Cash Flows from investing activities:		
Change in ownership of WISe.ART	750	-
Sale / (acquisition) of property, plant and equipment	(89)	(1,677)
Net cash provided by (used in) investing activities	661	(1,677)
Cash Flows from financing activities:		
Proceeds from options exercises	-	28
Proceeds from convertible loan issuance	19,350	3,401
Interest payments	144	-

USD'000	Unaudited 6 months ended June	
	2024	2023
Repayments of debt	(26)	(234)
Payments of debt issue costs	(1,217)	(210)
Net cash provided by (used in) financing activities	18,251	2,985
Effect of exchange rate changes on cash and cash equivalents	65	(16)
Cash and cash equivalents and restricted cash		
Net increase (decrease) during the period	11,093	(6,751)
Balance, beginning of period	15,311	20,814
Balance, end of period	26,404	14,063
Reconciliation to balance sheet		
Cash and cash equivalents	26,293	14,063
Restricted cash, current	111	-
Balance, end of period	26,404	14,063
Supplemental cash flow information		
Cash paid for interest, net of amounts capitalized	-	-
Cash paid for incomes taxes	-	8
Non-cash conversion of convertible loans into common stock	10,875	3,700
ROU assets obtained from operating lease	62	65

The accompanying notes are an integral part of these condensed consolidated financial statements.

5. Notes to the Condensed Consolidated Financial Statements

Note 1. The WISeKey Group

WISeKey International Holding AG, together with its consolidated subsidiaries (“**WISeKey**” or the “**Company**” or the “**Group**” or the “**WISeKey Group**”), has its headquarters in Switzerland. WISeKey International Holding AG, the ultimate parent of the WISeKey Group, was incorporated in December 2015 and is listed on the Swiss Stock Exchange, SIX SAG with the valor symbol “WIHN” since March 2016 and on the NASDAQ Capital Market exchange with the valor symbol “WKEY” since December 2019.

The Group develops, markets, hosts and supports a range of solutions that enable the secure digital identification of people, content and objects, by generating digital identities that enable its clients to monetize their existing user bases and at the same time, expand its own eco-system. WISeKey generates digital identities from its current products and services in Cybersecurity Services, IoT (internet of Things), Digital Brand Management and Mobile Security.

The Group leads a carefully planned vertical integration strategy through acquisitions of companies in the industry. The strategic objective is to provide integrated services to its customers and also achieve cross-selling and synergies across WISeKey. Through this vertical integration strategy, WISeKey anticipates being able to generate profits in the near future.

Note 2. Future operations and going concern

The Group experienced a loss from operations in this reporting period. Although the WISeKey Group does anticipate being able to generate profits in the near future, this cannot be predicted with any certainty. The accompanying condensed consolidated financial statements have been prepared assuming that the Group will continue as a going concern.

The Group incurred a net operating loss of USD 14.1 million and had positive working capital of USD 17.4 million as at June 30, 2024, calculated as the difference between current assets and current liabilities. Based on the Group’s cash projections for the next 12 months to September 30, 2025, it has sufficient liquidity to fund operations and financial commitments. Historically, the Group has been dependent on equity financing to augment the operating cash flow to cover its cash requirements. Any additional equity financing may be dilutive to shareholders.

On July 11, 2023, the Group entered into a Securities Purchase Agreement with L1 Capital Global Opportunities Master Fund (“L1”) and a Securities Purchase Agreement with Anson Investments Master Fund LP (“Anson”), pursuant to which L1 and Anson may enter into a private placement in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes (see Note 22 for detail).

After December 31, 2023, the Group signed two amendments to the Securities Purchase Agreement, providing for up to three additional funding tranches. The second tranche for an aggregate amount of USD 10 million was paid on January 10, 2024. The third tranche for an aggregate amount of USD 10 million was paid on March 1, 2024.

Based on the foregoing, Management believe it is correct to present these figures on a going concern basis.

Note 3. Basis of presentation

The condensed consolidated financial statements are prepared in accordance with the Generally Accepted Accounting Principles in the United States of America (“**US GAAP**”) as set forth in the Financial Accounting Standards Board’s (FASB) Accounting Standards Codification (ASC). All amounts are in United States dollars (“**USD**”) unless otherwise stated.

These unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto included in the Group’s annual financial statements for the year ended December 31, 2023, as filed in the 20-F on May 15, 2024.

The Group’s interim period results do not necessarily indicate the results that may be expected for any other interim period or for the full fiscal year. The significant accounting policies applied in the annual consolidated financial statements of the Group as of December 31, 2023, contained in the Group’s Annual Report have been applied consistently in these unaudited condensed consolidated financial statements.

Earnings per share

The Company’s share capital is divided into WIHN Class B Shares, par value CHF 0.10, which are listed on the SIX Swiss Stock Exchange, and WIHN Class A Shares, par value CHF 0.01, which are not listed on any exchange.

Historically, basic earnings per share were calculated using WISeKey International Holding Ltd’s weighted-average outstanding WIHN Class B Shares. When the effects are not antidilutive, diluted earnings per share were calculated using the weighted-average outstanding WIHN Class B Shares and the dilutive effect of stock options as determined under the treasury stock method. The Company had assessed that the other class of shares, the non-listed WIHN Class A Shares, were not eligible for dividend and, as a result, did not apply the two-class method required for companies with multiple classes of common stock.

However, in the course of 2023, the dividend in kind voted by the board of directors was distributed to both shareholders of WIHN Class B Shares and WIHN Class A Shares. In our 2023 annual report, we have therefore amended our presentation of earnings per share to show the allocation between both classes of shares.

As a result of this assessment, basic earnings per share are calculated using the two-class method required for companies with multiple classes of common stock. The two-class method determines net earnings per common share for each class of common stock according to dividends declared or accumulated and participation rights in distributed and undistributed earnings or losses. The two-class method requires income available to common stockholders for the period to be allocated between each class of common stock based upon their respective rights to receive dividends as if all income for the period had been distributed.

For WISeKey, the dividend rights of the holders of WIHN Class A Shares and WIHN Class B Shares (collectively, the “common stock”) differ. Dividend rights are proportionate to the nominal value of each class of shares. The dividend rights of a WIHN Class B Share with a nominal value of CHF 0.10 are ten times greater than the dividend rights of a WIHN Class A Share with a nominal value of CHF 0.01. Undistributed earnings are allocated to the classes of common stock proportionately to their dividend rights and the resulting net results per share will, therefore, vary for each class of common stock. In line with ASC 260-10-45, the Group has presented the net earnings attributed to its common stock for each class of common stock. The earnings per share calculation is based on the weighted average number of shares in issue of each class.

We note that the change in accounting policy to use the two-class method was triggered by the dividend approved by the Group’s shareholders at the Extraordinary General Meeting on April 27, 2023. Therefore, the earnings per share in the financial statements ended June 30, 2023 should have been prepared using the two-class method. The error in presentation of earnings per share in the financial statements ended June 30, 2023

was assessed as immaterial to both financial statements ended June 30, 2023 and 2024 and, as such, is considered an out-of-period adjustment. For increased transparency, management has chosen to voluntarily disclose the detail of the effect of the error correction on the comparative period's presentation of earnings per share.

Below is a summary of the impact of the change in policy on the previous period's presentation of earnings per share.

USD	Unaudited 6 months ended June 30, 2023	
	As previously reported	Restated amount
<u>Earnings per Class A Share</u>		
Earnings per Class A Share		
Basic	-	(0.25)
Diluted	-	(0.25)
Earning per Class A Share attributable to WISeKey International Holding Ltd		
Basic	-	(0.24)
Diluted	-	(0.24)
<u>Earnings per Class B Share</u>		
Earnings per Class B Share		
Basic	(2.44)	(2.49)
Diluted	(2.44)	(2.49)
Earning per Class B Share attributable to WISeKey International Holding Ltd		
Basic	(2.44)	(2.44)
Diluted	(2.44)	(2.44)

Note 4. Summary of significant accounting policies

Recent Accounting Pronouncements

Adoption of new FASB Accounting Standard in the current year – Prior-Year Financial Statements not restated:

As of January 1, 2024, the Group adopted Accounting Standards Update (ASU) 2023-01 Leases (Topic 842): Common Control Arrangements which requires all companies to amortize leasehold improvements associated with common control leases over the asset's useful life to the common control group regardless of the lease term. ASU 2023-01 requires leasehold improvements associated with leases between entities under common control to be amortized over the useful life of the improvements until the lessee ceases to control the use of the underlying asset through a lease, at which time the remaining value of the leasehold improvement would be accounted for as a transfer between entities under common control.

There was no impact on the Group's results upon adoption of the standard.

New FASB Accounting Standard to be adopted in the future:

In November 2023, the FASB issued ASU No 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances current segment disclosures and requires additional disclosures of significant segment expenses.

Summary: The amendments improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. In addition, the amendments enhance interim disclosure requirements, clarify circumstances in which an entity can disclose multiple segment measures of profit or loss, provide new segment disclosure requirements for entities with a single reportable segment, and contain other disclosure requirements.

Effective Date: ASU 2023-07 is effective for public business entities for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted.

The Group expects to adopt all the aforementioned guidance when effective. Management is assessing the impact of the aforementioned guidance on its consolidated financial statements but does not expect it to have a material impact.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures, which establishes new income tax disclosure requirements in addition to modifying and eliminating certain existing requirements.

Summary: The intent of this standard is to enhance the decision usefulness of income tax disclosures. The standard applies to all entities subject to ASC Topic 740, Income Taxes. In addition, entities will be required to disclose the amount of income taxes paid (net of refunds received) disaggregated by federal, state, and foreign taxes. They will also disclose the amount of income taxes paid (net of refunds) disaggregated by individual jurisdictions in which income taxes paid is equal to or greater than five percent of total income taxes paid. The standard also outlines additional disclosure requirements for all entities and specific updates for public business entities.

Effective Date: ASU 2023-09 is effective for public business entities for fiscal years beginning after December 15, 2024. Early adoption is permitted.

The Group expects to adopt all the aforementioned guidance when effective. Management is assessing the impact of the aforementioned guidance on its consolidated financial statements but does not expect it to have a material impact.

Note 5. Concentration of credit risks

Financial instruments that are potentially subject to credit risk consist primarily of cash and cash equivalents and trade accounts receivable. Our cash is held with large financial institutions. Management believes that the financial institutions that hold our investments are financially sound and accordingly, are subject to minimal credit risk. Deposits held with banks may exceed the amount of insurance provided on such deposits.

The Group sells to large, international customers and, as a result, may maintain individually significant trade accounts receivable balances with such customers during the year. We generally do not require collateral on trade accounts receivable. Summarized below are the clients whose revenue were 10% or higher than the

respective total consolidated net sales for the 6 months ended June 30, 2024 or 2023, and the clients whose trade accounts receivable balances were 10% or higher than the respective total consolidated trade accounts receivable balance as at June 30, 2024 and, or December 31, 2023. In addition, we note that some of our clients are contract manufacturers for the same companies; should these companies reduce their operations or change contract manufacturers, this would cause a decrease in our customer orders which would adversely affect our operating results.

	Revenue concentration (% of total net sales)		Receivables concentration (% of total accounts receivable)	
	6 months ended June 30,		As at June	As at
	2024 (unaudited)	2023 (unaudited)	30, 2024 (unaudited)	December 31, 2023
IoT operating segment				
Multinational electronics contract manufacturing company	3%	22%	-	14%
International equipment and software manufacturer	-	3%	-	18%
International digital identity & security provider	1%	11%	-	-
International software services provider	1%	5%	-	13%
International telecommunication company	21%	3%	50%	12%
Multinational telecommunication & hardware manufacturing company	-	-	-	11%
International electronic components manufacturer	11%	8%	-	-

Note 6. Fair value measurements

ASC 820 establishes a three-tier fair value hierarchy for measuring financial instruments, which prioritizes the inputs used in measuring fair value. These tiers include:

- Level 1, defined as observable inputs such as quoted prices in active markets;
- Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and
- Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

USD'000	As at June 30, 2024 (unaudited)		As at December 31, 2023		Fair value level	Note ref.
	Carrying amount	Fair value	Carrying amount	Fair value		
<i>Fair Value of Financial Instruments</i>						
Accounts receivable, net of allowance for credit losses	2,034	2,034	5,471	5,471	3	8
Notes receivable from employees and related parties, current	60	60	63	63	3	9
Equity securities, at cost	471	471	486	486	3	17
Accounts payable	12,492	12,492	12,863	12,863	3	19
Notes payable	4,160	4,160	4,164	4,164	3	20
Convertible note payable, current	49	49	190	190	3	22
Bonds, mortgages and other long-term debt	1,863	1,863	1,820	1,820	3	22
Convertible note payable, noncurrent	9,313	10,413	1,519	1,846	3	22

In addition to the methods and assumptions we use to record the fair value of financial instruments as discussed above, we used the following methods and assumptions to estimate the fair value of our financial instruments:

- Accounts receivable, net of allowance for credit losses – carrying amount approximated fair value due to their short-term nature.
- Notes receivable from related parties, noncurrent- carrying amount approximated fair value because time-value considerations are immaterial to the accounts.
- Equity securities, at cost - no readily determinable fair value, measured at cost minus impairment.
- Accounts payable – carrying amount approximated fair value due to their short-term nature.
- Convertible note payable, current – carrying amount approximated fair value due to their short-term nature.
- Notes payable – carrying amount approximated fair value due to their short-term nature.
- Bonds, mortgages and other long-term debt – carrying amount approximated fair value.
- Convertible note payable, noncurrent – fair value is calculated based on the present value of the future cash flows as of the reporting date.

Note 7. Cash and cash equivalents

Cash consists of deposits held at major banks and a USD 2.7 million investment with original maturity of 90 days.

Note 8. Accounts receivable

The breakdown of the accounts receivable balance is detailed below:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Trade accounts receivable	1,951	5,380
Allowance for credit losses	(113)	(114)
Accounts receivable from other related parties	182	178
Other accounts receivable	21	27
Total accounts receivable, net of allowance for credit losses	2,041	5,471

As at June 30, 2024, accounts receivable from other related parties consisted of a receivable from OISTE in relation to the facilities and personnel hosted by WISeKey SA and WISeKey International Holding on behalf of OISTE. (see Note 36).

Note 9. Notes receivable from employees and related parties

As at June 30, 2024, the notes receivable from employees and related parties consisted of:

- A short-term receivable in an amount of CHF 773 (USD 859) from Carlos Moreira, made up of non-business expenses on his company credit card to be deducted from his salary.
- a loan to an employee for CHF 46,837 (USD 52,015). The loan bears an interest rate of 0.5% per annum. The loan and accrued interest were initially to be repaid in full on or before December 31, 2021, extended to December 31, 2023. In exchange for the loan, the employee has pledged the 1,200 ESOP options that he holds on WIHN Class B Shares (see Note 28).

Note 10. Inventories

Inventories consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Raw materials	635	1,025
Work in progress	151	4,205
Finished Goods	1,986	-
Total inventories	2,772	5,230

Note 11. Government assistance

SEALSQ France SAS (formerly WISeKey Semiconductors SAS) is eligible for research tax credits provided by the French government. As at June 30, 2024, and December 31, 2023, the receivable balances in respect of these research tax credits owed to the Group were respectively USD 1,825,698 and USD 1,718,248. The credit is deductible from the entity's income tax charge for the year or payable in cash the following year, whichever event

occurs first. The balance at June 30, 2024 is the aggregate of USD 749,860 (at closing rate) tax credit earned in relation to the six month period ended June 30, 2024 and USD 1,075,838 (at closing rate) in relation to the year 2023. Refundable R&D tax credits are considered to be government assistance in line with ASC 832.

Note 12. Other current assets

Other current assets consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Value-Added Tax receivable	545	657
Advanced payment to suppliers	209	346
Deposits, current	5	5
Total other current assets	759	1,008

Note 13. Property, plant and equipment

Property, plant and equipment, net consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Machinery & equipment	7,031	6,997
Office equipment and furniture	3,017	3,186
Computer equipment and licences	1,833	1,861
Total property, plant and equipment gross	11,881	12,044
<i>Accumulated depreciation for:</i>		
Machinery & equipment	(4,198)	(3,963)
Office equipment and furniture	(2,925)	(3,044)
Computer equipment and licences	(1,643)	(1,645)
Total accumulated depreciation	(8,766)	(8,652)
Total property, plant and equipment, net	3,115	3,392
Depreciation charge for the six months ended June 30,	366	185

In the six months ended June 30, 2024, WISeKey did not identify any events or changes in circumstances indicating that the carrying amount of any asset may not be recoverable. As a result, WISeKey did not record any impairment charge on Property, plant and equipment in the six months ended June 30, 2024.

The useful economic life of property plant and equipment is as follow:

- Office equipment and furniture: 2 to 5 years
- Production masks 5 years
- Production tools 3 years
- Licenses 3 years
- Software 1 year

Note 14. Intangible assets

Intangible assets and future amortization expenses consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
<i>Intangible assets not subject to amortization:</i>		
Cryptocurrencies	94	96
<i>Intangible assets subject to amortization:</i>		
Trademarks	139	149
Patents	2,281	2,281
License agreements	11,448	12,132
Other intangibles	6,539	6,933
Total intangible assets gross	20,501	21,591
<i>Accumulated amortization for:</i>		
Trademarks	(139)	(149)
Patents	(2,281)	(2,281)
License agreements	(11,448)	(12,132)
Other intangibles	(6,539)	(6,933)
Total accumulated amortization	(20,407)	(21,495)
Total intangible assets subject to amortization, net	-	-
Total intangible assets, net	94	96
Amortization charge for the six months ended June 30,	-	2

Intangible assets not subject to amortization are made up of a balance of USD 94,271 in cryptocurrencies acquired in the normal course of business to allow the Group to make purchases in cryptocurrencies. The cryptocurrency balance was initially recorded at cost. The Group did not identify any impairment factors in the six months ended June 30, 2024. Therefore, no impairment losses were recorded in the six months ended June 30, 2024, and the balance as at June 30, 2024 remains USD 94,271.

The useful economic life of intangible assets is as follow:

- Trademarks: 5 to 10 years
- Patents: 5 to 10 years
- License agreements: 1 to 5 years
- Other intangibles: 3 to 10 years

Note 15. Leases

WISeKey has historically entered into a number of lease arrangements under which it is the lessee. As at June 30, 2024 WISeKey holds nine operating leases, and one short-term lease. The short-term lease and operating leases relate to premises. We do not sublease. All of our operating leases include multiple optional renewal periods which are not reasonably certain to be exercised.

During the six months ended June 30, 2024 and 2023, we recognized rent expenses associated with our leases as follows:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
<i>Operating lease cost:</i>		
Fixed rent expense	317	303
Short-term lease cost	1	1
Net lease cost	318	304
Lease cost - General & administrative expenses	318	304
Net lease cost	318	304

In the six months ended June 30, 2024, and in the year ended December 31, 2023, we had the following cash and non-cash activities associated with our leases:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	331	614
Non-cash investing and financing activities:		
Net lease cost	657	668
<i>Additions to ROU assets obtained from:</i>		
New operating lease liabilities	62	66

The following table provides the details of right-of-use assets and lease liabilities as of June 30, 2024:

USD'000	As at June 30, 2024 (unaudited)
Right-of-use assets:	
Operating leases	1,781
Total right-of-use assets	1,781
Lease liabilities:	
Operating leases	1,768
Total lease liabilities	1,768

As at June 30, 2024, future minimum annual lease payments were as follows:

Year	USD'000 Operating	USD'000 Short-term	USD'000 Finance	USD'000 Total
2024	320	-	-	320
2025	627	-	-	627
2026	554	-	-	554
2027	298	-	-	298
2028 and beyond	163	-	-	163
Total future minimum operating and short-term lease payments	1,962	-	-	1,962
Less effects of discounting	(194)	-	-	(194)
Lease liabilities recognized	1,768	-	-	1,768

As of June 30, 2024, the weighted-average remaining lease term was 3.37 years for operating leases.

For our operating leases and because we generally do not have access to the implicit rate in the lease, we calculated an estimate rate based upon the estimated incremental borrowing rate of the entity holding the lease. The weighted average discount rate associated with operating leases as of June 30, 2024 was 4.74%.

Note 16. Goodwill

We test goodwill for impairment annually on October 1st, or as and when indicators of impairment arise. As at October 1, 2023, the fair value of the net assets of the reporting unit concerned by goodwill was superior to the carrying value of the net assets and goodwill allocated. After October 1, 2023, there were no impairment indicators identified triggering a new impairment test. Therefore, no impairment loss was recorded in the six months ended June 30, 2024.

Impairment reviews have been conducted for the goodwill allocated to the reporting unit ("RU) relating to the acquisition of WISeKey Semiconductors SAS in 2016. Fair value has been determined based on the income approach. Cash flows have been projected over 5 years from the date of the assessment and have been discounted at the pre-tax weighted average cost of capital. Fair value is higher than its carrying value. The WISeKey Semiconductors SAS RU has a negative carrying amount.

USD'000	IoT Segment	Total
Goodwill balance as at December 31, 2022	8,317	8,317
Goodwill acquired during the year	-	-
Impairment losses	-	-
As at December 31, 2023		
Goodwill	8,317	8,317
Accumulated impairment losses	-	-
Goodwill balance as at December 31, 2023	8,317	8,317
Goodwill acquired during the year	-	-
Impairment losses	-	-
As at June 30, 2024		
Goodwill	8,317	8,317
Accumulated impairment losses	-	-
Goodwill balance as at June 30, 2024	8,317	8,317

The assumptions included in the impairment tests require judgment, and changes to these inputs could impact the results of the calculations. Other than management's projections of future cash flows, the primary assumptions used in the impairment tests were the weighted-average cost of capital and long-term growth rates.

Although the Group's cash flow forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management is using to operate the underlying businesses, there are significant judgments in determining the expected future cash flows attributable to a reporting unit.

Note 17. Equity securities, at cost

Investment in FOSSA SYSTEMS s.l.

On April 8, 2021, WIS@key E.L.A. s.l. invested EUR 440,000 (USD 475,673 at historical rate) to acquire 15% of the share capital of FOSSA SYSTEMS s.l. ("**FOSSA**"), a Spanish aerospace company providing picosatellites for Low Earth Orbit (LEO) services as a vertically integrated service: from design to launch and operations.

The FOSSA investment was assessed as an equity investment without a readily determinable fair value and we elected the measurement at cost less impairment, adjusted for observable price changes for identical or similar investments of the same issuer as permitted by ASU 2016-01. As such, the FOSSA investment was initially recognized on the balance sheet at EUR 440,000 (USD 475,673 at historical rate).

As at June 30, 2024, we performed a qualitative assessment to consider potential impairment indicators. We made reasonable efforts to identify any observable transactions of identical or similar investments but did not identify any such transaction. Therefore, no impairment loss was recorded in the six months ended June 30, 2024, and the carrying value of the FOSSA investment as at June 30, 2024 was EUR 440,000 (USD 471,045 at closing rate).

Note 18. Other noncurrent assets

Other noncurrent assets consisted of noncurrent deposits. Deposits are primarily made up of rental deposits on the premises rented by the Group.

Note 19. Accounts payable

The accounts payable balance consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Trade creditors	2,692	3,568
Accounts payable to Board Members	2,541	826
Accounts payable to other related parties	168	104
Accounts payable to underwriters, promoters, and employees	2,852	4,200
Other accounts payable	4,239	4,165
Total accounts payable	12,492	12,863

As at June 30, 2024, accounts payable to Board Members are made up of:

- a balance of CHF 394,875 (USD 438,534) payable to Carlos Moreira in relation to accrued bonus and social charges thereon (see Note 35 for detail), and

- a balance of CHF 1,600,083 (USD 1,776,993) payable to Peter Ward in relation to accrued bonus and social charges thereon, and accrued holiday entitlement (see Note 35 for detail).
- a total balance of USD 325,000 payable to other Board Members in relation to their board fee (see Note 35 for detail).

As at June 30, 2024, accounts payable to other related parties are made up of CHF 151,340 (USD 168,073) payable to OISTE (see Note 35 for detail).

Accounts payable to underwriters, promoters and employees consist primarily of payable balances to employees in relation to holidays, bonus and 13th month accruals across WISeKey.

Other accounts payable are mostly amounts due or accrued for professional services (e.g. legal, accountancy, and audit services) and accruals of social charges in relation to the accrued liability to employees.

Note 20. Notes payable

Notes payable consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Short-term loan	4,082	4,085
Short-term loan from shareholders	78	79
Total notes payable	4,160	4,164

As at June 30, 2024, the current notes payable balance was made up of:

- a USD 4,030,000 short-term loan with ExWorks (see detail in Note 22), and
- a CHF 46,600 (USD 51,752) current portion of the Covid loans with UBS (see Note 22).

As at June 30, 2024, the short-term loan from shareholders was made up of loans from the noncontrolling shareholders of WISeKey SAARC for a total amount of USD 78,414 at closing rate (USD 78,950 as at December 31, 2023). These loans do not bear interest. See Note 35 for detail.

The weighted-average interest rate on current notes payable, excluding loans from shareholders at 0% interest rate, was respectively 10% and 10% per annum as at June 30, 2024 and December 31, 2023.

Note 21. Other current liabilities

Other current liabilities consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Other tax payable	321	319
Customer contract liability, current	217	353
Other current liabilities	160	160
Total other current liabilities	698	832

Note 22. Loans and line of credit***Credit Agreement with ExWorks Capital Fund I, L.P***

On April 4, 2019, WISECoin AG (“**WISECoin**”), an affiliate of the Group, signed a credit agreement with ExWorks. Under this credit agreement, WISECoin was granted a USD 4,000,000 term loan and may add up to USD 80,000 accrued interest to the loan principal, hence a maximum loan amount of USD 4,080,000. The loan bears an interest rate of 10% p.a. payable monthly in arrears. The maturity date of the arrangement was April 4, 2020, therefore all outstanding balances are classified as current liabilities in the balance sheet. ExWorks can elect to have part or all of the principal loan amount and interests paid either in cash or in WISECoin Security Tokens (the “**WCN Token**”) as may be issued by WISECoin from time to time. As at June 30, 2019, the conversion price was set at CHF 12.42 per WCN Token based on a non-legally binding term sheet.

Under the terms of the credit agreement, WISECoin is required to not enter into agreements that would result in liens on property, assets or controlled subsidiaries, in indebtedness other than the exceptions listed in the credit agreement, in mergers, consolidations, organizational changes except with an affiliate, contingent and third party liabilities, any substantial change in the nature of its business, restricted payments, insider transactions, certain debt payments, certain agreements, negative pledge, asset transfer other than sale of assets in the ordinary course of business, or holding or acquiring shares and/or quotas in another person other than WISECoin R&D. Furthermore, WISECoin is required to maintain its existence, pay all taxes and other liabilities.

Borrowings under the line of credit are secured by first ranking security interests on all material assets and personal property of WISECoin, and a pledge over the shares in WISECoin representing 90% of the capital held by the Group. Under certain circumstances, additional security may be granted over the intellectual property rights of WISECoin.

Total debt issue costs of USD 160,000 were recorded as debt discount and amortized over the duration of the loan. As at December 31, 2020, the debt discount was fully amortized.

As at June 30, 2024, the outstanding borrowings were USD 4,030,000 and the loan had not been repaid, meaning that the loan is past due under the terms of the credit agreement with ExWorks. The Group has been in contact with ExWorks regarding a potential sale of its investment in Tarmin, a company in which ExWorks is also a significant shareholder. It is the view of the management of the Group that the sale of the investment in Tarmin and the repayment of the credit agreement are codependent and therefore the loan will be repaid at such time

as the investment is sold. ExWorks continues to charge interest on the loan at the rate of 10% p.a. After December 31, 2023, the Group was contacted by the receiver of ExWorks Capital Fund I, L.P in relation to the outstanding borrowings.

Loan Agreements with UBS SA

On March 26, 2020, two members of the Group, WISeKey International Holding Ltd and WISeKey SA, entered into the Covid loans to borrow funds under the Swiss Government supported COVID-19 Credit Facility with UBS SA. Under the terms of the Agreement, UBS has lent such Group members a total of CHF 571,500. The loans are repayable in full by March 30, 2028, as amended, being the eighth anniversary of the date of deposit of the funds by UBS. Semi-annual repayments have started since March 31, 2022, and will be spread on a linear basis over the remaining term. Full repayment of the loans is permitted at any time. The interest rate is determined by Swiss COVID-19 Law and currently the Covid loans carry an interest rate of 0%. There were no fees or costs attributed to the Covid loans and as such there is no debt discount of debt premium associated with the loan facility.

Under the terms of the loans, the relevant companies are required to use the funds solely to cover the liquidity requirements of the Group. In particular, the Group cannot use the funds for the distribution of dividends and directors' fees as well as the repayment of capital contributions, the granting of active loans; refinancing of private or shareholder loans; the repayment of intra-group loans; or the transfer of guaranteed loans to a group company not having its registered office in Switzerland, whether directly or indirectly linked to applicant.

During the six months ended June 30, 2024, the loans accrued interest in a total amount of CHF 614 (USD 682) and WISeKey repaid CHF 23,300 out of the loans, bringing the total repayment to date to CHF 409,500 (USD 454,775 at closing rate). Therefore, as at June 30, 2024, the outstanding balance on the loans was CHF 162,614 (USD 180,593).

Credit Agreement with L1 Capital Global Opportunities Master Fund

On June 29, 2021, WISeKey entered into an Agreement for the Subscription of up to \$22M Convertible Notes (the "**L1 Facility**") with L1 Capital Global Opportunities Master Fund ("**L1**"), pursuant to which L1 committed to grant a loan to WISeKey for up to a maximum amount of USD 22 million divided into tranches of variable sizes, during a commitment period of 24 months ending June 28, 2023. The initial tranche was agreed in the L1 Facility agreement as USD 11 million to be funded on June 29, 2021 (the "**L1 Initial Tranche**"). For the remaining facility, WISeKey has the right to request L1 to subscribe for four additional note tranches of USD 2,750,000 each or any other amount agreed between the parties, at the date and time determined by WISeKey during the commitment period, subject to certain conditions. Each tranche is divided into convertible notes of USD 100,000 each that bear interest of 6% per annum. Subject to a cash redemption right of WISeKey, the convertible notes are mandatorily convertible into WIHN Class B Shares within a period of 24 months from issuance (the "**L1 Conversion Period**"). Conversion takes place upon request by L1 during the L1 Conversion Period, but in any case no later than at the expiry of the L1 Conversion Period. Each calendar month, L1 can request conversion of up to 12.5% of the principal amount of all issued tranches at a conversion price of 95% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 5 trading days preceding the relevant conversion date, and, should L1 wish to convert more than 12.5% of the principal amount of all issued tranches in a calendar month, the conversion price for the additional converted amounts is set at

the higher of (i) the Fixed Conversion price applicable to relevant tranche, and (ii) 95% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 5 trading days preceding the relevant conversion date (the “**Original L1 Conversion Price**”).

Due to L1’s option to convert the loan in part or in full at any time before maturity, the L1 Facility was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that L1 will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the L1 Facility was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Debt issue costs made up of legal expenses of USD 36,745, a commission of USD 802,500 to the placement agent, a fee of USD 220,000 to L1 representing 2% of the principal value of the initial tranche, and a subscription fee of USD 220,000 to L1 representing 2% of the principal value of the initial tranche payable in WIHN Class B Shares were due upon issuance of the Initial Tranche and recorded as a debt discount against the L1 Initial Tranche principal amount. The subscription fee was paid in WIHN Class B Shares and was fair valued at CHF 183,901 (USD 200,871) based on the market value of the shares at issuance. Upon subscription of each subsequent tranche under the L1 Facility, debt issue costs corresponding to the fair value of the L1 subscription fee payable in WIHN Class B Shares representing 2% of the principal value of the subscribed funds and an L1 fee representing 2% of the principal value of the subscribed funds will be recorded as a debt discount against each tranche.

On September 27, 2021, WISeKey and L1 entered into the First Amendment to the Subscription Agreement (the “**L1 First Amendment**”), pursuant to which WISeKey has the right to request L1 to subscribe for four “accelerated” note tranches of between USD 1 million and USD 2,750,000 each or any other amount agreed between the parties (the “**L1 Accelerated Tranches**”), at the date and time determined by WISeKey during the commitment period, subject to certain conditions. The terms and conditions of the L1 Accelerated Tranches issued under the L1 First Amendment remain the same as the terms and conditions of the L1 Facility except for the conversion price of the L1 Accelerated Tranches which is set at 90% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 10 trading days preceding the relevant conversion date, regardless of the conversion amount (the “**New L1 Conversion Price**”).

On March 3, 2022, WISeKey and L1 entered into the Second Amendment to the Subscription Agreement (the “**L1 Second Amendment**”), pursuant to which, for the remaining facility of USD 5 million, WISeKey has the right to request L1 to subscribe for five “additional accelerated” note tranches (the “**L1 Additional Accelerated Tranches**”) of between USD 1 million and USD 5 million each or any other amount agreed between the parties, up until March 2, 2024, subject to certain conditions. The terms and conditions of the L1 Additional Accelerated Tranches issued under the L1 Second Amendment remain the same as the terms and conditions of the L1 Facility except for the conversion price of the L1 Additional Accelerated Tranches which is the New L1 Conversion Price.

In line with ASC 470-50-15-3, the New L1 Conversion Price under the L1 First Amendment was assessed as a change to the conversion privileges provided in the L1 Facility for the purpose of inducing conversion, whereby the New L1 Conversion Price provides a reduction of the Original L1 Conversion Price and results in the issuance of additional WIHN Class B Shares, which is governed by ASC 470-20-40. Therefore, in line with ASC 470-20-40-16 and ASC 470-20-40-17, for conversions of L1 Accelerated Tranches and L1 Additional Accelerated Tranches, we recognize the fair value of the additional shares delivered by applying the New L1 Conversion Price in comparison with the Original L1 Conversion Price as an expense to the income statement classified as debt conversion expense.

Additionally, per the terms of the L1 Facility, upon each tranche subscription under the L1 Facility and the L1 First Amendment, WISeKey granted L1 the option to acquire WIHN Class B Shares at an exercise price of the higher of (a) 1.5 times the 5-trading day volume-weighted average price of the WIHN Class B Shares on the SIX Swiss Stock Exchange immediately preceding the tranche closing date and (b) CHF 250. The number of warrants granted at each tranche subscription was calculated as 25% of the principal amount of each tranche divided by the volume-weighted average price of the trading day immediately preceding the tranche closing date. Each warrant agreement has a 3-year exercise period starting on the relevant subscription date. In line with ASC 470-20-25-2, for each subscription, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement was fair valued at grant using the Black-Scholes model and the market price of WIHN Class B Shares on the date of the subscription. The fair value of the debt was calculated using the discounted cash flow method.

During the year to December 31, 2021, WISeKey made a total of six subscriptions for a total of USD 17 million under the L1 Facility and the L1 First Amendment. Per the terms of the L1 Facility, WISeKey issued L1 with a total of 61,576 warrants on WIHN Class B Shares at an exercise price of CHF 250. The warrant agreements were all assessed as equity instruments and were fair valued at grant at an aggregate amount of USD 479,872 using the Black-Scholes model and the market price of WIHN Class B Shares on the date of grant. For each subscription, the fair value of the debt was calculated using the discounted cash flow method then, applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host and the credit entry was booked in additional paid-in capital ("**APIC**"). The cumulated fair value of the debt for the six subscriptions was USD 17,819,019, with a cumulated debt discount in relation to warrants of USD 445,331.

In the year ended December 31, 2021, L1 converted a total of USD 8.2 million out of the L1 Initial Tranche and USD 5.3 million out of the L1 Accelerated Tranches, resulting in the delivery of a total of 237,176 WIHN Class B Shares. A debt discount charge of USD 185,528 was amortized to the income statement, a debt conversion expense of USD 325,424 was recorded in the income statement, and a total debit of USD 1,376,983 was booked to APIC on conversions as per ASC 470-02-40-4.

During the year to December 31, 2022, WISeKey made a total of six subscriptions for a total of USD 5 million under the L1 Facility and the L1 Second Amendment. Per the terms of the L1 Facility, WISeKey issued L1 with a total of 98,231 warrants on WIHN Class B Shares at an exercise price of CHF 250. The warrant agreements were all assessed as equity instruments and were fair valued at grant at an aggregate amount of USD 12,856 using the Black-Scholes model and the market price of WIHN Class B Shares on the date of grant. For each subscription, the fair value of the debt was calculated using the discounted cash flow method then, applying the

relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host and the credit entry was booked in APIC. The cumulated fair value of the debt for the six subscriptions was USD 5,171,238, with a cumulated debt discount in relation to warrants of USD 11,831.

In the year ended December 31, 2022, L1 converted a total of USD 2,8 million out of the L1 Initial Tranche, and USD 4.3 million out of the L1 Accelerated Tranches and L1 Additional Accelerated Tranches, resulting in the delivery of a total of 584,512 WIHN Class B Shares. A debt discount charge of USD 87,795 was amortized to the income statement, a debt conversion expense of USD 366,116 was recorded in the income statement, and a total debit of USD 304,019 was booked to APIC on conversions as per ASC 470-02-40-4.

As at December 31, 2022, the L1 Facility had been fully drawn. Convertible notes in an aggregate amount of USD 1,400,000 remained unconverted and the unamortized debt discount balance was USD 133,471, hence a carrying value of USD 1,266,529.

During the year ended December 31, 2023, L1 converted a total of USD 1.2 million out of the L1 Additional Accelerated Tranches, resulting in the delivery of a total of 145,975 WIHN Class B Shares. A debt discount charge of USD 16,094 was amortized to the income statement, a debt conversion expense of USD 177,209 was recorded in the income statement, and a total debit of USD 69,560 was booked to APIC on conversions as per ASC 470-02-40-4.

As at December 31, 2023, convertible notes in an aggregate amount of USD 200,000 remained unconverted and the unamortized debt discount balance was USD 9,728, hence a carrying value of USD 190,272.

During the six months ended June 30, 2024, L1 converted a total of USD 150,000 out of the L1 Additional Accelerated Tranches, resulting in the delivery of a total of 47,611 WIHN Class B Shares. A debt discount charge of USD 1,462 was amortized to the income statement, a debt conversion expense of USD 20,941 was recorded in the income statement, and a total credit of USD 13,874 was booked to APIC on conversions as per ASC 470-02-40-4.

As at June 30, 2024, convertible notes in an aggregate amount of USD 50,000 remained unconverted and the unamortized debt discount balance was USD 1,199, hence a carrying value of USD 48,801.

Credit Agreement with Anson Investments Master Fund LP

On June 29, 2021, WISeKey entered into an Agreement for the Issuance and Subscription of Convertible Notes (the “**Anson Facility**”) with Anson Investments Master Fund LP (“**Anson**”), pursuant to which Anson committed to grant a loan to WISeKey for up to a maximum amount of USD 22 million divided into tranches of variable sizes, during a commitment period of 24 months ending June 28, 2023. The initial tranche was agreed in the Anson Facility agreement as USD 11 million to be funded on June 29, 2021 (the “**Anson Initial Tranche**”). For the remaining facility, WISeKey has the right to request Anson to subscribe for four additional note tranches of USD 2,750,000 each or any other amount agreed between the parties, at the date and time determined by WISeKey during the commitment period, subject to certain conditions. Each tranche is divided into convertible notes of USD 100,000 each that bear interest of 6% per annum. Subject to a cash redemption right of WISeKey, the convertible notes are mandatorily convertible into WIHN Class B Shares within a period of 24 months from issuance (the “**Anson Conversion Period**”). Conversion takes place upon request by Anson during the Anson Conversion Period, but in any case no later than at the expiry of the Anson Conversion Period. Each calendar

month, Anson can request conversion of up to 12.5% of the principal amount of all issued tranches at a conversion price of 95% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 5 trading days preceding the relevant conversion date, and, should Anson wish to convert more than 12.5% of the principal amount of all issued tranches in a calendar month, the conversion price for the additional converted amounts is set at the higher of (i) the Fixed Conversion price applicable to relevant tranche, and (ii) 95% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 5 trading days preceding the relevant conversion date (the **“Original Anson Conversion Price”**).

Due to Anson’s option to convert the loan in part or in full at any time before maturity, the Anson Facility was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that Anson will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the Anson Facility was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Debt issue costs made up of legal expenses of USD 4,197, a commission of USD 802,500 to the placement agent, a fee of USD 220,000 to Anson representing 2% of the principal value of the Anson Initial Tranche, and a subscription fee of USD 220,000 to Anson representing 2% of the principal value of the Anson Initial Tranche payable in WIHN Class B Shares were due upon issuance of the Anson Initial Tranche and recorded as a debt discount against the Anson Initial Tranche principal amount. The subscription fee was paid in WIHN Class B Shares and was fair valued at CHF 183,901 (USD 200,871) based on the market value of the shares at issuance. Upon subscription of each subsequent tranche under the Anson Facility, debt issue costs corresponding to the fair value of the subscription fee payable in WIHN Class B Shares representing 2% of the principal value of the subscribed funds and a fee representing 2% of the principal value of the subscribed funds will be recorded as a debt discount against each tranche.

On September 27, 2021, WIS@key and Anson entered into the Anson First Amendment, pursuant to which WIS@key has the right to request Anson to subscribe for four Anson Accelerated Tranches of between USD 1 million and USD 2,750,000 each or any other amount agreed between the parties, at the date and time determined by WIS@key during the commitment period, subject to certain conditions. The terms and conditions of the Anson Accelerated Tranches issued under the Anson First Amendment remain the same as the terms and conditions of the Anson Facility except for the conversion price of the Anson Accelerated Tranches which is set at 90% of the lowest daily volume-weighted average price of a WIHN Class B Share as traded on the SIX Swiss Exchange during the 10 trading days preceding the relevant conversion date, regardless of the conversion amount (the **“New Anson Conversion Price”**).

In line with ASC 470-50-15-3, the New Anson Conversion Price under the Anson First Amendment was assessed as a change to the conversion privileges provided in the Anson Facility for the purpose of inducing conversion, whereby the New Anson Conversion Price provides a reduction of the Original Anson Conversion Price and results in the issuance of additional WIHN Class B Shares, which is governed by ASC 470-20-40. Therefore, in line with ASC 470-20-40-16 and ASC 470-20-40-17, for conversions of Anson Accelerated Tranches, we

recognize the fair value of the additional shares delivered by applying the New Anson Conversion Price in comparison with the Original Anson Conversion Price as an expense to the income statement classified as debt conversion expense.

Additionally, per the terms of the Anson Facility, upon each tranche subscription under the Anson Facility and the Anson First Amendment, WISeKey granted Anson the option to acquire WIHN Class B Shares at an exercise price of the higher of (a) 1.5 times the 5-trading day volume-weighted average price of the WIHN Class B Shares on the SIX Swiss Stock Exchange immediately preceding the tranche closing date and (b) CHF 250. The number of warrants granted at each tranche subscription was calculated as 25% of the principal amount of each tranche divided by the volume-weighted average price of the trading day immediately preceding the tranche closing date. Each warrant agreement has a 3-year exercise period starting on the relevant subscription date. In line with ASC 470-20-25-2, for each subscription, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement was fair valued at grant using the Black-Scholes model and the market price of WIHN Class B Shares on the date of the subscription. The fair value of the debt was calculated using the discounted cash flow method.

During the year ended December 31, 2021, WISeKey made three subscriptions for a total of USD 16.5 million under the Anson Facility and the Anson First Amendment. Per the terms of the Anson Facility, WISeKey issued Anson with a total of 56,437 warrants on WIHN Class B Shares at an exercise price of CHF 5. The warrant agreements were all assessed as equity instruments and were fair valued at grant at an aggregate amount of USD 480,046 using the Black-Scholes model and the market price of WIHN Class B Shares on the date of grant. For each subscription, the fair value of the debt was calculated using the discounted cash flow method then, applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host and the credit entry was booked in APIC. The cumulated fair value of the debt for the three subscriptions was USD 17,000,080, with a cumulated debt discount in relation to warrants of USD 453,095.

During the year ended December 31, 2021, Anson converted a total of USD 9.8 million out of the Anson Initial Tranche, resulting in the delivery of a total of 164,565 WIHN Class B Shares. A debt discount charge of USD 248,449 was amortized to the income statement, and a total debit of USD 1,182,876 was booked to APIC on conversions as per ASC 470-02-40-4.

During the year ended December 31, 2022, WISeKey did not make any new subscriptions under the Anson Facility.

During the year ended December 31, 2022, Anson converted a total of USD 1.2 million out of the Anson Initial Tranche, and USD 5.5 million out of the Anson Accelerated Tranches, resulting in the delivery of a total of 287,033 WIHN Class B Shares. A debt discount charge of USD 79,707 was amortized to the income statement, a debt conversion expense of USD 460,956 was recorded in the income statement, and a total debit of USD 222,195 was booked to APIC on conversions as per ASC 470-02-40-4.

During the year ended December 31, 2023, WISeKey made four subscriptions for a total of USD 3.5 million under the Anson Facility and the Anson Second Amendment. Per the terms of the Anson Facility, WISeKey issued

Anson with a total of 72,404 warrants on WIHN Class B Shares at an exercise price of CHF 250. The warrant agreements were all assessed as equity instruments and were fair valued at grant at an aggregate amount of USD nil using the Black-Scholes model and the market price of WIHN Class B Shares on the date of grant. For each subscription, the fair value of the debt was calculated using the discounted cash flow method then, applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host and the credit entry was booked in APIC. The cumulated fair value of the debt for the four subscriptions was USD 3,371,469, with a cumulated debt discount in relation to warrants of USD nil.

During the year ended December 31, 2023, Anson converted a total of USD 3.5 million out of the Anson Additional Accelerated Tranches, resulting in the delivery of a total of 558,213 WIHN Class B Shares. A debt discount charge of USD 33,695 was amortized to the income statement, a debt conversion expense of USD 385,035 was recorded in the income statement, and a total credit of USD 68,730 was booked to APIC on conversions as per ASC 470-02-40-4.

As at December 31, 2023, all convertible notes had been converted, hence a USD nil carrying value. At the end of the official commitment period on June 28, 2023, the outstanding Anson Facility available was USD 2 million which, as at June 30, 2024, management still believes may be the subject of a later amendment.

Production Capacity Investment Loan Agreement

In November 2022, WISeKey entered into a loan agreement with a third-party client to borrow funds for the purpose of increasing their production capacity. Under the terms of the Agreement, the client has lent to WISeKey a total of USD 2,000,000. The loan will be reimbursed by way of a volume rebate against future sales volumes from the WISeKey Semiconductors group to the client during the period from July 1, 2023, through to December 31, 2025. The volume rebate is based upon quarterly sales volumes in excess of a base limit on a yearly projected basis. Any amount still outstanding as at December 31, 2025 falls due for repayment on this date. The loan does not bear any interest and there were no fees or costs attributed to the loan.

An unamortized debt discount totaling USD 511,128 was calculated and booked to APIC in 2022.

As at June 30, 2024, WISeKey has not repaid any amount. The Group recorded a debt discount amortization expense of USD 80,160 in the six months ended June 30, 2024. Therefore, as at June 30, 2024, the loan balance remains USD 2 million with an unamortized debt discount balance of USD 266,044, thus leaving a carrying value of USD 1,733,956.

Share Purchase Agreement with L1 Capital Global Opportunities Master Fund

On July 11, 2023, the Group entered into a Securities Purchase Agreement (the “**L1 SPA**”) with L1 pursuant to which L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes (the “**L1 Notes**”). The L1 Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The L1 Notes will be convertible into ordinary shares of SEALSQ Corp (“**SEALSQ**”), partially or in full, at an initial conversion price equal to the lesser of (i) USD 30 per ordinary share and (ii) 92% of the lowest daily volume weighted average price of the ordinary shares during the ten trading days immediately preceding the notice of partial or full conversion of the L1 Note, with a floor price of USD 2.50. The covenants include the requirement for the Group to maintain a minimum cash balance of USD 4 million and to ensure that indebtedness of the Group does not exceed 15% of the average market capitalization.

Due to L1's option to convert the loan in part or in full at any time before maturity, the L1 SPA was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that L1 will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the L1 SPA was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Additionally, per the terms of the L1 SPA, upon each tranche closing under the L1 SPA, SEALSQ will grant L1 the option to acquire ordinary shares of SEALSQ at an initial exercise price of USD 30, which may reset at 120% of the closing VWAP on the six-month anniversary of the tranche closing date. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the ordinary shares of SEALSQ on the trading day immediately preceding the tranche closing date. Each warrant agreement has a 5-year exercise period starting on the relevant tranche closing date. In line with ASC 470-20-25-2, for each tranche closing, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement is fair valued at grant using the Black-Scholes model and the market price of the ordinary shares on the tranche closing date. The fair value of the debt is calculated using the discounted cash flow method.

The first tranche of USD 5 million was funded on July 12, 2023. SEALSQ issued to L1 (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the "**First L1 Note**"), convertible into SEALSQ's ordinary shares, and (ii) 122,908 warrants on the ordinary shares of SEALSQ with a 5-year maturity (the "**First Tranche Warrant**"). SEALSQ also created a capital reserve of 8,000,000 ordinary shares from its duly authorized ordinary shares for issuance under the First L1 Note and the First Tranche Warrant. Debt issue costs made up of legal expenses totaling USD 114,832 and a commission of USD 250,000 to the placement agent were due upon issuance of the First L1 Note, and a fee of USD 200,000 representing 4% of the principal value of the First L1 Note was paid to L1 at closing.

The First Tranche Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 632,976 using the Black-Scholes model and the market price of the ordinary shares of SEALSQ on the date of grant of USD 11.42. The fair value of the debt was calculated using the discounted cash flow method as USD 4,987,363. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 563,112, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 323,744 and a debit to APIC of USD 41,088. Including the fee paid to L1, a total debt discount of USD 1,086,856 was recorded against the First L1 Note's principal amount.

During the year ended December 31, 2023, L1 converted a total of USD 4 million of the First L1 Note, resulting in the delivery of a total of 3,940,630 Ordinary Shares of SEALSQ. A debt discount charge of USD 210,290 was amortized to the income statement and unamortized debt discounts totaling USD 705,572 were booked to APIC on conversions in line with ASC 470-02-40-4.

On January 9, 2024, WISeKey and L1 entered into an Amendment to the Securities Purchase Agreement (the “**First L1 Amendment**”), to amend some of the original terms and conditions of the L1 facility. As per the First L1 Amendment, L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 4 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 92% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the L1 Amendment, upon each tranche closing under the L1 Facility, WISeKey will grant L1 the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 4, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The second tranche of USD 5 million was funded on January 11, 2024, by L1. WISeKey issued to L1 (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the “**Second L1 Note**”), convertible into SEALSQ’s Ordinary Shares, and (ii) 1,144,339 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the “**Second L1 Warrant**”). SEALSQ also created a capital reserve of 45,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the Second L1 Note and the Second L1 Warrant. Debt issue costs made up of legal expenses totaling USD 70,279 and a commission of USD 250,000 to the placement agent were due upon issuance of the Second L1 Note, and a fee of USD 200,000 representing 4% of the principal value of the Second L1 Note was paid to L1 at closing.

The Second L1 Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 709,490 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.60. The fair value of the debt was calculated using the discounted cash flow method as USD 4,594,061. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 668,882, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 277,433 and a debit to APIC of USD 42,846. Including the fee paid to L1, a total debt discount of USD 1,146,315 was recorded against the Second L1 Note’s principal amount.

On March 1, 2024, WISeKey and L1 entered into the Second Amendment to the Securities Purchase Agreement (the “**Second L1 Amendment**”), to amend some of the terms and conditions of the L1 facility. As per the Second L1 Amendment, L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 2.5% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 5.5 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 93% of the lowest daily volume VWAP of the

Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the L1 Second Amendment, upon each tranche closing under the L1 Facility, WISeKey will grant L1 the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 5.5, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The third tranche of USD 5 million was funded on March 1, 2024, by L1. WISeKey issued to L1 (i) a Senior Original Issue 2.5% Discount Convertible Promissory Note of USD 5 million (the “**Third L1 Note**”), convertible into SEALSQ’s Ordinary Shares, and (ii) 768,679 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the “**Third L1 Warrant**”). Debt issue costs made up of legal expenses totaling USD 53,184 and a commission of USD 250,000 to the placement agent were due upon issuance of the Third L1 Note, and a fee of USD 125,000 representing 2.5% of the principal value of the Third L1 Note was paid to L1 at closing.

The Third L1 Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 553,449 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.98. The fair value of the debt was calculated using the discounted cash flow method as USD 4,549,701. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 542,262, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 270,303 and a debit to APIC of USD 32,881. Including the fee paid to L1, a total debt discount of USD 937,565 was recorded against the First L1 Note’s principal amount.

During the six months ended June 30, 2024, L1 converted a total of USD 1 million of the First L1 Note and USD 3.9 million of the Second L1 Note, resulting in the delivery of a total of 3,317,720 Ordinary Shares of SEALSQ. A debt discount charge of USD 246,825 was amortized to the income statement and unamortized debt discounts totaling USD 1,009,178 were booked to APIC on conversion in line with ASC 470-02-40-4.

As at June 30, 2024, the unconverted balance was USD 1.1 million on the Second L1 Note and USD 5 million on the Third L1 note, and the unamortized debt discount balance was USD 998,871, hence a carrying value of USD 5,101,129.

Share Purchase Agreement with Anson Investments Master Fund

On July 11, 2023, the Group entered into a Securities Purchase Agreement (the “**Anson SPA**”) with Anson, pursuant to which Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes (the “**Anson Notes**”). The Anson Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Anson Notes will be convertible into ordinary shares of SEALSQ Corp, partially or in full, at an initial conversion price equal to the lesser of (i) USD 30 per ordinary share and (ii) 92% of the lowest daily volume weighted average price of the ordinary shares during the ten trading days immediately preceding the notice of partial or full conversion of the Note, with a floor price of USD 2.50. The

covenants include the requirement for the Group to maintain a minimum cash balance of USD 4 million and to ensure that indebtedness of the Group does not exceed 15% of the average market capitalization.

Due to Anson's option to convert the loan in part or in full at any time before maturity, the Anson SPA was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that Anson will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the Anson SPA was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Additionally, per the terms of the Anson SPA, upon each tranche closing under the Anson SPA, SEALSQ will grant Anson the option to acquire ordinary shares of SEALSQ at an initial exercise price of USD 30, which may reset at 120% of the closing VWAP on the six-month anniversary of the tranche closing date. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the ordinary shares of SEALSQ on the trading day immediately preceding the tranche closing date. Each warrant agreement has a 5-year exercise period starting on the relevant tranche closing date. In line with ASC 470-20-25-2, for each tranche closing, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement is fair valued at grant using the Black-Scholes model and the market price of the ordinary shares on the tranche closing date. The fair value of the debt is calculated using the discounted cash flow method.

The first tranche of USD 5 million was funded on July 12, 2023. SEALSQ issued to Anson (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the "**First Anson Note**"), convertible into SEALSQ's ordinary shares, and (ii) 122,908 warrants on the ordinary shares of SEALSQ with a 5-year maturity (the "**First Tranche Warrant**"). SEALSQ also created a capital reserve of 8,000,000 ordinary shares from its duly authorized ordinary shares for issuance under the First Anson Note and the First Tranche Warrant. Debt issue costs made up of legal expenses totaling USD 64,832 and a commission of USD 250,000 to the placement agent were due upon issuance of the First Anson Note, and a fee of USD 200,000 representing 4% of the principal value of the First Anson Note was paid to Anson at closing.

The First Tranche Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 632,976 using the Black-Scholes model and the market price of the ordinary shares of SEALSQ on the date of grant of USD 11.42. The fair value of the debt was calculated using the discounted cash flow method as USD 4,987,363. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 563,112, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 279,375 and a debit to APIC of USD 35,457. Including the fee paid to Anson, a total debt discount of USD 1,042,487 was recorded against the First Anson Note's principal amount.

During the year ended December 31, 2023, Anson converted a total of USD 4,175,000 of the First Anson Note, resulting in the delivery of a total of 3,996,493 Ordinary Shares of SEALSQ. A debt discount charge of

USD 198,984 was amortized to the income statement and unamortized debt discounts totaling USD 708,062 were booked to APIC on conversions in line with ASC 470-02-40-4.

Additionally, on July 10, 2023, the Group issued 8,184 new Ordinary Shares to Anson as a result of a share ledger correction, thus a total delivery for the year of 4,004,677 Ordinary Shares.

On January 9, 2024, WISeKey and Anson entered into an Amendment to the Securities Purchase Agreement (the **"First Anson Amendment"**), to amend some of the original terms and conditions of the Anson facility. As per the First Anson Amendment, Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 4 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 92% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the Anson Amendment, upon each tranche closing under the Anson Facility, WISeKey will grant Anson the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 4, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The Second tranche of USD 5 million was funded on January 10, 2024, by Anson. WISeKey issued to Anson (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the **"Second Anson Note"**), convertible into SEALSQ's Ordinary Shares, and (ii) 1,144,339 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the **"Second Anson Warrant"**). SEALSQ also created a capital reserve of 45,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the Second Anson Note and the Second Anson Warrant. Debt issue costs made up of legal expenses totaling USD 55,279 and a commission of USD 250,000 to the placement agent were due upon issuance of the Second Anson Note, and a fee of USD 200,000 representing 4% of the principal value of the Second Anson Note was paid to Anson at closing.

The Second Anson Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 709,490 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.60. The fair value of the debt was calculated using the discounted cash flow method as USD 4,594,171. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 668,868, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 264,441 and a debit to APIC of USD 40,838. Including the fee paid to Anson, a total debt discount of USD 1,133,309 was recorded against the Second Anson Note's principal amount.

On March 1, 2024, WISeKey and Anson signed a second Amendment to Securities Purchase Agreement (the **"Second Anson Amendment"**), to amend some of the terms and conditions of the Anson facility. As per the

Second Anson Amendment, Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 2.5% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 5.5 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 93% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the Anson Second Amendment, upon each tranche closing under the Anson Facility, WISeKey will grant Anson the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 5.5, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The Third tranche of USD 5 million was funded on March 1, 2024, by Anson. WISeKey issued to Anson (i) a Senior Original Issue 2.5% Discount Convertible Promissory Note of USD 5 million (the “**Third Anson Note**”), convertible into SEALSQ’s Ordinary Shares, and (ii) 768,679 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the “**Third Anson Warrant**”). Debt issue costs made up of legal expenses totaling USD 38,184 and a commission of USD 250,000 to the placement agent were due upon issuance of the Third Anson Note, and a fee of USD 125,000 representing 2.5% of the principal value of the Third Anson Note was paid to Anson at closing.

The Third Anson Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 553,449 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.98. The fair value of the debt was calculated using the discounted cash flow method as USD 4,549,701. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 542,262, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 256,930 and a debit to APIC of USD 31,254. Including the fee paid to Anson, a total debt discount of USD 924,192 was recorded against the Third Anson Note’s principal amount.

During the six months ended June 30, 2024, Anson converted a total of USD 825,000 of the First Anson Note, and USD 5 million of the Second Anson Note, resulting in the delivery of a total of 3,970,104 Ordinary Shares of SEALSQ. A debt discount charge of USD 200,923 was amortized to the income statement and unamortized debt discounts totaling USD 1,204,299 were booked to APIC on conversion in line with ASC 470-02-40-4.

As at June 30, 2024, the unconverted balance on the Third Anson Note was USD 5 million and the unamortized debt discount balance was USD 787,720, hence a carrying value of USD 4,212,280.

Note 23. Employee benefit plans

Defined benefit post-retirement plan

The Group maintains three pension plans: one maintained by WISeKey SA and one by WISeKey International Holding Ltd, both covering its employees in Switzerland, as well as one maintained by SEALSQ France SAS (formerly WISeKey Semiconductors SAS) covering WISeKey's French employees.

All plans are considered defined benefit plans and accounted for in accordance with ASC 715 Compensation – Retirement Benefits. This model allocates pension costs over the service period of employees in the plan. The underlying principle is that employees render services ratably over this period, and therefore, the income statement effects of pensions should follow a similar pattern. ASC 715 requires recognition of the funded status or difference between the fair value of plan assets and the projected benefit obligations of the pension plan on the balance sheet, with a corresponding adjustment recorded in the net loss. If the projected benefit obligation exceeds the fair value of the plan assets, then that difference or unfunded status represents the pension liability.

The Group records net service cost as an operating expense and other components of defined benefit plans as a non-operating expense in the statement of comprehensive loss.

The liabilities and annual income or expense of the pension plan are determined using methodologies that involve several actuarial assumptions, the most significant of which are the discount rate and the long-term rate of asset return (based on the market-related value of assets). The fair value of plan assets is determined based on prevailing market prices.

The defined benefit pension plan maintained by SEALSQ France SAS, and its obligations to employees in terms of retirement benefits, is limited to a lump sum payment based on remuneration and length of service, determined for each employee. The plan is not funded, which means that there are no plan assets.

The pension liability calculated as at June 30, 2024 is based on annual personnel costs and assumptions from December 31, 2023.

The expected future cash flows to be paid by the Group for employer contribution for the year ended December 31, 2024 are USD 235,000.

Movement in Funded Status USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Net Service cost	118	115
Interest cost/(credit)	112	138
Expected return on Assets	(172)	(154)
Amortization on Net (gain)/loss	11	-
Amortization on Prior service cost/(credit)	24	13
CTA	2	1
Total Net Periodic Benefit Cost/(credit)	95	113
Employer contributions paid in the period	(118)	(111)
Total Cashflow	(118)	(111)

All of the assets are held under the collective contract by the plan's re-insurer company and are invested in a mix of Swiss and International bond and equity securities. In line with ASC 820's three-tier fair value hierarchy, pension assets belong to the fair value level 2.

Note 24. Commitments and contingencies

Lease commitments

The future payments due under leases are shown in Note 15.

Guarantees

Our software and hardware product sales agreements generally include certain provisions for indemnifying customers against liabilities if our products infringe a third party's intellectual property rights. Certain of our product sales agreements also include provisions indemnifying customers against liabilities in the event we breach confidentiality or service level requirements. It is not possible to determine the maximum potential amount under these indemnification agreements due to our lack of history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. To date, we have not incurred any costs as a result of such indemnifications and have not accrued any liabilities related to such obligations in our condensed consolidated financial statements.

Note 25. Stockholders' equity

Stockholders' equity consisted of the following:

WISeKey International Holding Ltd	As at June 30, 2024		As at December 31, 2023	
	<i>Class A Shares</i>	<i>Class B Shares</i>	<i>Class A Shares</i>	<i>Class B Shares</i>
Share Capital				
Par value per share (in CHF)	0.01	0.10	0.25	2.50
Share capital (in USD)	400,186	8,987,125	400,186	8,170,070
<u><i>Per Articles of association and Swiss capital categories</i></u>				
Conditional Share Capital - Total number of conditional shares ⁽¹⁾	400,000	1,210,590	400,000	1,500,000
Total number of fully paid-in shares	1,600,880	3,365,560	1,600,880	3,076,150
<u><i>Per US GAAP</i></u>			-	-
Total number of authorized shares	2,000,880	6,194,267	2,000,880	6,194,267
Total number of fully paid-in issued shares	1,600,880	3,365,560	1,600,880	3,076,150
Total number of fully paid-in outstanding shares	1,600,880	3,292,180	1,600,880	2,954,097
Par value per share (in CHF)	0.01	0.10	0.25	2.50
Share capital (in USD)	16,007	359,485	400,186	8,170,070
Total share capital (in USD)		375,492		8,570,256
Treasury Share Capital				
Total number of fully paid-in shares held as treasury shares		73,380	-	122,053
Treasury share capital (in USD)		547,761	-	691,280
Total treasury share capital (in USD)		547,761	-	691,280

On June 27, 2024, at WISeKey's 2024 Annual General Meeting of Shareholders (AGM), shareholders approved the Board of Directors' proposals to effect a per share nominal value reduction for all Class B Shares from CHF 2.50 to CHF 0.10 and all Class A Shares from CHF 0.25 to CHF 0.01. There was no distribution to shareholders and the Group's current equity was not reduced as a result of this change.

On June 27, 2024, at WISeKey's 2024 Annual General Meeting of Shareholders (AGM), shareholders approved the renewal of a capital band ranging from 90 percent to 150 percent of the issued share capital entered in the commercial register at that time. Within this capital band, the Board of Directors is authorized to increase or reduce the share capital once or several times until June 27, 2029, or until an earlier expiry of the capital band.

In the six months ended June 30, 2024, WISeKey did not purchase any treasury shares and sold a total of 48,673 treasury shares at an average sale price of USD 2.96 per share.

In the year to December 31, 2023, WIS@key purchased a total of 300,202 treasury shares at an average purchase price of USD 2.71 per share and sold a total of 187,294 treasury shares at an average sale price of USD 9.33 per share.

Voting rights

Each share carries one vote at a general meeting of shareholders, irrespective of the difference in par value of Class A Shares (CHF 0.01 per share) and Class B Shares (CHF 0.10 per share). Our Class A Shares have a lower par value (CHF 0.01) than our Class B Shares (CHF 0.10) but have same voting right as the higher par value Class B Shares, namely one (1) vote per share. This means that, relative to their respective per share contribution to the share capital, the holders of our Class A Shares have a greater relative per share voting power than the holders of our Class B Shares for matters that require approval on the basis of a specified majority of shares present at the shareholders meeting.

Shareholder resolutions and elections (including elections of members of the board of directors) require the affirmative vote of an absolute majority of the votes represented (in person or by proxy) at a general meeting of shareholders (each Class A Share and each Class B Share having one vote), unless otherwise stipulated by law or our Articles. The following matters require approval by a majority of the par value of the shares represented at the general meeting (each Class A Share having a par value of CHF 0.01 per share and each Class B Share having a par value of CHF 0.10 per share):

- electing our auditor;
- appointing an expert to audit our business management or parts thereof;
- adopting any resolution regarding the instigation of a special investigation; and
- adopting any resolution regarding the initiation of a derivative liability action.

In addition, under Swiss corporation law and our Articles, approval by two-thirds of the shares represented at the meeting, and by the absolute majority of the par value of the shares represented is required for:

- amending our corporate purpose;
- creating or cancelling shares with preference rights;
- restricting the transferability of registered shares;
- restricting the exercise of the right to vote or the cancellation thereof;
- creating authorized or conditional share capital;
- increasing the share capital out of equity, against contributions in kind or for the purpose of acquiring specific assets and granting specific benefits;
- limiting or withdrawing shareholder's pre-emptive rights;
- relocating our registered office;
- converting registered shares into bearer shares and vice versa;
- our dissolution or liquidation; and
- transactions among corporations based on Switzerland's Federal Act on Mergers, Demergers, Transformations and the Transfer of Assets of 2003, as amended (the "Swiss Merger Act") including a merger, demerger or conversion of a corporation.

In accordance with Swiss law and generally accepted business practices, our Articles do not provide attendance quorum requirements generally applicable to general meetings of shareholders.

Both categories of Shares confer equal entitlement to dividends and liquidation rights relative to the nominal value of the Class A Shares and the Class B Shares, respectively.

Only holders of Shares (including nominees) that are recorded in the share register as of the record date communicated in the invitation to the General Meeting are entitled to vote at a General Meeting.

Any acquirer of Shares who is not registered in the share register as a shareholder with voting rights may not vote at or participate in any General Meeting but will still be entitled to dividends and other rights with financial value with respect to such Shares.

Each holder of Class A Shares has entered into an agreement (each such agreement a "Shareholder Agreement") with WIS@key, pursuant to which such holder of Class A Shares has given the undertaking vis-à-vis WIS@key not to (i) directly or indirectly offer, sell, transfer or grant any option or contract to purchase, purchase any option or contract to sell, grant instruction rights with respect to or otherwise dispose of, or (ii) solicit any offers to purchase, otherwise acquire or be entitled to, any of his/her/its Class A Shares or any right associated therewith (collectively a "Transfer"), except if such Transfer constitutes a "Permitted Transfer", as defined hereafter. A Permitted Transfer is defined as a Transfer by a holder of Class A Share to his/her spouse or immediate family member (or a trust related to such immediate family member) or a third party for reasonable estate planning purposes, the transfer to an affiliate and any transfer following conversion of his/her/its Class A Shares into Class B Shares. Each holder of a Class A Share has the right to request that, at WIS@key's annual General Meeting, an item be included on the agenda according to which Class A Shares are, at the discretion of each holder of Class A Shares, converted into Class B Shares.

Note 26. Revenue

Nature of goods and services

The following is a description of the principal activities – separated by reportable segment – from which the Group generates its revenue. For more detailed information about reportable segments, see Note 32 - Segment information and geographic data.

- IoT Segment

The IoT segment of the Group principally generates revenue from the sale of semiconductors secure chips. Although they may be sold in connection with other services of the Group, they always represent distinct performance obligations.

The Group recognizes revenue when a customer takes possession of the chips, which usually occurs when the goods are delivered. Customers typically pay once goods are delivered.

- mPKI Segment

The mPKI Segment of the Group generates revenues from Digital Certificates, Software as a Service, Software license and Post-Contract Customer Support (PCS) for cybersecurity applications. Products and services are sold principally separately but may also be sold in bundled packages.

For bundled packages, the Group accounts for individual products and services separately if they are distinct – i.e. if a product or service is separately identified from other items in the bundled package and if a customer can benefit from it. The consideration is allocated between separate products and services in a bundle based on their stand-alone selling prices. The stand-alone selling prices are determined based on the list prices when

available or estimated based on the Adjusted Market Assessment approach (e.g. licenses), or the Expected Cost-Plus Margin approach (e.g., PCS).

Product and services	Nature, timing of satisfaction of performance obligations and significant payment terms
Certificates	The Group recognizes revenue on a straight-line basis over the validity period of the certificate, which is usually one to three years. This period starts after the certificate has been issued by the Certificate Authority and may be used by the customer for authentication and signature, by checking the certificate validity against the Root of Trust which is maintained by the Group on its IT infrastructure. Customers pay for certificates when certificates are issued and invoiced. The excess of payments over recognized revenue is shown as deferred revenue.
SaaS	The Group's SaaS arrangement cover the provision of cloud-based certificate life-cycle-management solutions and signing and authentication solutions. The Group recognizes revenue on a straight-line basis over the service period which is usually yearly renewable. Customers usually pay ahead of quarterly or yearly service periods; the paid amounts which have not yet been recognized are shown as deferred revenue.
Software	The Group provides software for certificates life-cycle management and signing and authentication solutions. The Group recognizes license revenue when the software has been delivered and PCS revenue over the service period which is usually one-year renewable. Customers pay upon delivery of the software or over the PCS.
Implementation, integration and other services	The Group provides services to implement and integrate multi-element cybersecurity solutions. Most of the time the solution elements are off-the-shelve non-customized components which represent distinct performance obligations. Implementation and integration services are payable when rendered, while other revenue elements are payable and recognized as per their specific description in this section. WIS@key also provides hosting and monitoring of infrastructure services which are distinct performance obligations and are paid and recognized over the service period.

Disaggregation of revenue

The following table shows the Group's revenues disaggregated by reportable segment and by product or service type:

Disaggregation of revenue (unaudited)	Typical payment	At one point in time 6 months ended June 30,		Over time 6 months ended June 30,		Total 6 months ended June 30,	
		2024	2023	2024	2023	2024	2023
USD'000							
IoT Segment							
Secure chips	Upon delivery	4,828	14,751	-	-	4,828	14,751
Total IoT segment revenue		4,828	14,751	-	-	4,828	14,751
mPKI Segment							
Certificates	Upon issuance	-	-	63	78	63	78
Licenses and integration	Upon delivery	-	59	161	126	161	185
SaaS, PCS and hosting	Quarterly or yearly	-	-	122	93	122	93
Total mPKI segment revenue		-	59	346	297	346	356
Total Revenue		4,828	14,810	346	297	5,174	15,107

For the six months ended June 30, 2024, and 2023, the Group recorded no revenues related to performance obligations satisfied in prior periods.

The following table shows the Group's revenues disaggregated by geography, based on our customers' billing addresses:

Net sales by region USD'000	Unaudited 6 months ended June 30,	
	2024	2023
IoT Segment		
Switzerland	179	533
Rest of EMEA	701	3'888
North America	3,058	8,374
Asia Pacific	890	1,956
Total IoT segment revenue	4,828	14,751
mPKI Segment		
Switzerland	82	145
Rest of EMEA	205	207
North America	30	-
Latin America	29	4
Total mPKI segment revenue	346	356
Total Net sales	5,174	15,107

Contract assets, deferred revenue and contract liability

Our contract assets, deferred revenue and contract liability consist of:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Trade accounts receivables		
Trade accounts receivable - IoT segment	1,635	5,103
Trade accounts receivable - mPKI segment	316	277
Total trade accounts receivables	1,951	5,380
Contract assets	-	-
Total contract assets	-	-
Contract liabilities - current	217	353
Contract liabilities - noncurrent	3	3
Total contract liabilities	220	356
Deferred revenue		
Deferred revenue - mPKI segment	122	241
Deferred revenue - IoT segment	-	-
Total deferred revenue	122	241
Revenue recognized in the period from amounts included in the deferred revenue at the beginning of the year	223	179

Increases or decreases in trade accounts receivable, contract assets, deferred revenue and contract liability were primarily due to normal timing differences between our performance and customer payments.

Remaining performance obligations

As of June 30, 2024, approximately USD 342,000 is expected to be recognized from remaining performance obligations for mPKI and IoT contracts. We expect to recognize revenue for these remaining performance obligations during the next two years approximately as follows:

Estimated revenue from remaining performance obligations as at June 30, 2024 (USD'000)		Total
	2024	317
	2025	25
Total remaining performance obligation		342

Note 27. Other operating income

Other operating income consisted of the following:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Other operating income from related parties	88	13
Other operating income - other	90	8
Total other operating income	178	21

In the six months ended June 30, 2024, other operating income from related parties was made up of the amounts invoiced by WISeKey to the OISTE Foundation for the use of its premises and equipment (see Note 35).

Note 28. Stock-based compensation

Employee stock option plans

The Stock Option Plan ("ESOP 1") was approved on December 31, 2007 by the stockholders of WISeKey SA, representing 2,632,500 options convertible into WISeKey SA shares with an exercise price of CHF 0.01 per share.

The Stock Option Plan ("ESOP 2") was approved on December 31, 2011 by the stockholders of WISeKey SA, representing 16,698,300 options convertible into WISeKey SA shares with an exercise price of CHF 0.01 per share.

At March 22, 2016 as part of the reverse acquisition transaction, both ESOP plans in existence in WISeKey SA were transferred to WISeKey International Holding Ltd at the same terms, with the share exchange term of 5:1 into WIHN Class B Shares.

Grants

In the six months ended June 30, 2024, the Group granted a total of 71,172 options exercisable in WIHN Class B Shares with immediate vesting to employees and Board members, none of which had been exercised as of June 30, 2024. Each option is exercisable into one WIHN Class B Share.

The options granted were valued at grant date using the Black-Scholes model.

There was no grant of options on WIHN Class A Shares in the six months ended June 30, 2024.

Stock option charge to the income statement

The Group calculates the fair value of options granted by applying the Black-Scholes option pricing model, using the market price of a WIHN Class B Share. Expected volatility is based on historical volatility of WIHN Class B Shares.

In the six months ended June 30, 2024, a total charge of USD 241,639 was recognized in the consolidated income statement calculated by applying the Black-Scholes model at grant, in relation to options granted to Board members.

The following assumptions were used to calculate the compensation expense and the calculated fair value of stock options granted:

Assumption	June 30, 2024	June 30, 2023
Dividend yield	None	None
Risk-free interest rate used (average)	1.00%	1.00%
Expected market price volatility	71.29%	70.03 - 70.72%
Average remaining expected life of stock options on WIHN Class B Shares (years)	4.41	3.71
Average remaining expected life of stock options on WIHN Class A Shares (years)	0.90	1.90

Unvested options to employees as at June 30, 2024 were recognized prorata temporis over the service period (grant date to vesting date).

The following table illustrates the development of the Group's non-vested options for the six months ended June 30, 2024.

Non-vested options	Options on WIHN Class B Shares		Options on WIHN Class A Shares	
	Number of shares under options	Weighted-average grant date fair value (USD)	Number of shares under options	Weighted-average grant date fair value (USD)
Non-vested options as at December 31, 2022	1,740	37.50	-	-
Granted	18,418	10.00	-	-
Vested	(19,210)	11.00	-	-
Non-vested forfeited or cancelled	(680)	46.22	-	-
Non-vested options as at December 31, 2023	268	7.50	-	-
Granted	71,172	3.39	-	-
Vested	(71,304)	3.40	-	-
Non-vested forfeited or cancelled	-	-	-	-
Non-vested options as at June 30, 2024	136	7.55	-	-

As at June 30, 2024, there was a USD 457 unrecognized compensation expense related to non-vested stock option-based compensation arrangements. Non-vested stock options outstanding as at June 30, 2024 were accounted for using the graded-vesting method, as permitted under ASC 718-10-35-8, and we therefore recognized compensation costs calculated using the Black-Scholes model and the market price of WIHN Class B Shares at grant date, over the requisite service period.

The following tables summarize the Group's stock option activity for the six months ended June 30, 2024.

Options on WIHN Class B Shares	WIHN Class B Shares under options	Weighted-average exercise price (USD)	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (USD)
Outstanding as at December 31, 2022	140,617	3.00	6.10	887,345
Of which vested	138,877	3.00	6.11	878,378
Of which non-vested	1,740	-	-	-
Granted	18,418	2.85	-	-
Exercised or converted	(10,086)	2.50	-	7,867
Forfeited or cancelled	(680)	2.50	-	-
Expired	(230)	-	-	-
Outstanding as at December 31, 2023	148,039	3.11	5.23	111,306
Of which vested	147,771	3.11	5.23	111,104
Of which non-vested	268	-	-	-
Granted	71,172	2.78	-	-
Exercised or converted	-	-	-	-
Forfeited or cancelled	-	-	-	-
Expired	(200)	-	-	-
Outstanding as at June 30, 2024	219,011	3.02	5.33	291,604
Of which vested	218,875	3.03	5.33	290,990
Of which non-vested	136	-	-	-

Options on WIHN Class A Shares	WIHN Class A Shares under options	Weighted-average exercise price (USD)	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (USD)
Outstanding as at December 31, 2022	392,720	0.25	5.90	248,950
Of which vested	392,720	0.25	5.90	248,950
Granted	-	-	-	-
Outstanding as at December 31, 2023	392,720	0.25	4.90	23,339
Of which vested	392,720	0.25	4.90	23,339
Granted	-	-	-	-
Outstanding as at June 30, 2024	392,720	0.25	4.40	52,337
Of which vested	392,720	0.25	4.40	52,337

Summary of stock-based compensation expenses

Stock-based compensation expenses USD'000	Unaudited 6 months ended June 30,	
	2024	2023
In relation to Employee Stock Option Plans (ESOP)	242	197
In relation to non-ESOP Option Agreements	-	-
Total	242	197

Stock-based compensation expenses are recorded under the following expense categories in the income statement.

Stock-based compensation expenses USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Selling & marketing expenses	-	86
General & administrative expenses	242	111
Total	242	197

Note 29. Non-operating income

Non-operating income consisted of the following:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Foreign exchange gain	707	505
Financial income	256	1
Interest income	79	56
Other	87	36
Total non-operating income	1,129	598

Note 30. Non-operating expenses

Non-operating expenses consisted of the following:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Foreign exchange losses	41	630
Financial charges	38	13
Interest expense	522	245
Other components of defined benefit plans, net	(23)	-
Other	6	8
Total non-operating expenses	584	896

Note 31. Income taxes

The Group assesses the recoverability of its deferred tax assets and, to the extent recoverability does not satisfy the “more likely than not” recognition criterion under ASC 740, records a valuation allowance against its deferred tax assets. The Group considered its recent operating results and anticipated future taxable income in assessing the need for its valuation allowance.

In the years up until and including 2021, the Group recorded a valuation allowance for the full amount of its deferred tax assets. However, in view of the Group’s income before income tax in the year ended December 31, 2022, and of the anticipated future taxable income per management’s forecast, the Group assessed that the recoverability of its deferred tax assets partially satisfied the “more likely than not” recognition criterion under ASC 740 as at December 31, 2022 and, therefore, partially reversed the valuation allowance previously recorded.

As at June 30, 2024, the Group assessed that the recoverability of its deferred tax assets still partially satisfied the “more likely than not” recognition criteria under ASC 740, but that it would spread over more years than initially calculated. The Group considered its recent operating results and anticipated future taxable income in assessing the need for its valuation allowance and assessed that the valuation allowance should be increased to reflect the expected delay in the recoverability of its deferred tax assets, as reflected in the tables below.

The Group’s deferred tax assets and liabilities consist of the following:

Deferred income tax assets/(liabilities)	As at June 30,	As at December
USD'000	2024	31,
	(unaudited)	2023
Switzerland	-	-
Foreign	1,775	3,077
Deferred income tax assets / (liabilities)	1,775	3,077

Deferred tax assets and liabilities	As at June 30,	As at December
USD'000	2024	31,
	(unaudited)	2023
Stock-based compensation	(21)	(2)
Defined benefit accrual	354	363
Tax loss carryforwards	24,560	23,537
Add back loss carryforwards used for the debt remission by WIS@key Semiconductors SAS	803	828
Valuation allowance	(23,921)	(21,649)
Deferred tax assets / (liabilities)	1,775	3,077

Note 32. Segment information and geographic data

The Group has two segments: Internet of Things (“IoT”, previously referred to as “Semiconductors”), and managed Public Key Infrastructure (“mPKI”, previously referred to as “Others”). The Group’s chief operating decision maker, who is its Chief Executive Officer, reviews financial performance according to these two segments for purposes of allocating resources and assessing budgets and performance.

The IoT segment encompasses the design, manufacturing, sales and distribution of microprocessors operations.

The mPKI segment includes all operations relating to the provision of secured access keys, authentication, signing software, certificates and digital security applications.

USD'000	6 months ended June 30, 2024 (unaudited)			6 months ended June 30, 2023 (unaudited)		
	IoT	mPKI	Total	IoT	mPKI	Total
Revenues from external customers	4'828	346	5'174	14'751	356	15'107
Intersegment revenues	-	2'696	2'696	-	1'137	1'137
Interest revenue	74	5	79	55	1	56
Interest expense	316	206	522	7	245	252
Depreciation and amortization	301	65	366	158	29	187
Segment income /(loss) before income taxes	(9'454)	(4'441)	(13'895)	2'738	(9'471)	(6'732)
Profit / (loss) from intersegment sales	-	245	245	-	55	55
Income tax recovery /(expense)	(1'305)	(5)	(1'310)	(319)	(4)	(322)
Other significant non-cash items						
Share-based compensation expense	42	242	284	-	197	197
Interest and amortization of debt discount and expense	528	1	529	88	31	119
Debt conversion expense	-	21	21	-	484	484
Segment assets	32'234	72'907	105'141	23'593	53'212	76'805

**Unaudited 6 months ended June 30,
Revenue reconciliation**

	2024 USD'000	2023 USD'000
Total revenue for reportable segment	7,870	16,244
Elimination of intersegment revenue	(2,696)	(1,137)
Total consolidated revenue	5,174	15,107

**Unaudited 6 months ended June 30,
Loss reconciliation**

	2024 USD'000	2023 USD'000
Total profit / (loss) from reportable segments	(13,895)	(6,732)
Elimination of intersegment profits	(245)	(55)
Loss before income taxes	(14,140)	(6,787)

As at June 30, (unaudited)	2024	2023
Assets	USD'000	USD'000
Total assets from reportable segments	105,141	76,805
Elimination of intersegment receivables	(9,459)	(3,945)
Elimination of intersegment investment and goodwill	(44,235)	(25,852)
Consolidated total assets	51,447	47,008

Revenue and property, plant and equipment by geography

The following tables summarize geographic information for net sales based on the billing address of the customer, and for property, plant and equipment.

Net sales by region	Unaudited 6 months ended June 30,	
USD'000	2024	2023
Switzerland	261	678
Rest of EMEA*	906	4,095
North America	3,088	8,374
Asia Pacific	890	1,956
Latin America	29	4
Total net sales	5,174	15,107

Property, plant and equipment, net of depreciation, by region	Unaudited 6 months ended June 30,	
USD'000	2024	2023
Switzerland	102	181
Rest of EMEA*	3,013	2,124
North America	-	1
Total Property, plant and equipment, net of depreciation	3,115	2,306

* EMEA means Europe, Middle East and Africa

Note 33. Earnings / (Loss) per share

The computation of basic and diluted net earnings / (loss) per share for the Group is as follows:

Loss per share	Unaudited 6 months ended June 30,	
	2024	2023
Net loss attributable to WISeKey International Holding AG (USD'000)	(9,470)	(6,968)
Effect of potentially dilutive instruments on net loss (USD'000)	n/a	n/a
Net loss attributable to WISeKey International Holding AG after effect of potentially dilutive instruments (USD'000)	n/a	n/a
<u>Class A Shares, par value CHF 0.01</u>		
Shares used in net loss per Class A Share computation:		
Weighted average Class A Shares outstanding - basic	1,600,880	1,600,880
Effect of potentially dilutive equivalent shares	n/a	n/a
Weighted average Class A Shares outstanding - diluted	1,600,880	1,600,880
Net loss per Class A Share		
Basic weighted average loss per Class A Share attributable to WISeKey International Holding Ltd (USD)	(0.27)	(0.24)
Diluted weighted average loss per Class A Share attributable to WISeKey International Holding Ltd (USD)	(0.27)	(0.24)
<u>Class B Shares, par value CHF 0.10</u>		
Shares used in net loss per Class B Share computation		
Weighted average Class B Shares outstanding - basic	3,289,725	2,697,503
Effect of potentially dilutive equivalent shares	n/a	n/a
Weighted average Class B Shares outstanding - diluted	3,289,725	2,697,503
Net loss per Class B Share		
Basic weighted average loss per Class B Share attributable to WISeKey International Holding Ltd (USD)	(2.74)	(2.44)
Diluted weighted average loss per Class B Share attributable to WISeKey International Holding Ltd (USD)	(2.74)	(2.44)

For purposes of the diluted net loss per share calculation, stock options, convertible instruments and warrants are considered potentially dilutive securities and are excluded from the calculation of diluted net loss per share, because their effect would be anti-dilutive. Therefore, the basic and diluted net loss per share were the same for the six months ended June 30, 2024, and June 30, 2023, due to the Group's net loss position.

Note 34. Legal proceedings

We are currently not party to any legal proceedings and claims that is not provided for in our financial statements.

Starting in 2023 until April 2024, the French customs authorities carried out an audit of our exportation documents and found some administrative errors. In June 2024, we submitted observations to the French customs authorities contesting the legal qualification of the infringement notified. As at June 30, 2024, the French customs authorities have not yet disclosed their conclusion or a course of action in relation to their findings. We note that the administrative errors identified in our exportation documents had no financial impact on our current or historical financial statements and did not result in any error or misstatement in our historical financial statements. However, management believes that there is a reasonable possibility that a penalty may be incurred in relation to this matter, but a reasonable estimate of such loss cannot be made as at June 30, 2024.

Note 35. Related parties disclosure**Subsidiaries**

The condensed consolidated financial statements of the Group include the entities listed in the following table:

Group Company Name	Share Capital	% ownership as at June 30, 2024	% ownership as at December 31, 2023	Nature of business
WISeKey SA	CHF 933,436	95.75%	95.75%	Main operating company. Sales and R&D services
SEALSQ France SAS ¹	EUR 1,473,162	44.65%	58.83%	Chip manufacturing, sales & distribution
WiseTrust SA	CHF 680,000	100%	100.0%	Non-operating investment company
WISeKey ELA SL	EUR 4,000,000	95.75%	95.75%	Sales & support
WISeKey SAARC Ltd	GBP 100,000	51%	51%	Non trading
WISeKey USA Inc ²	USD 6,500	97.88%	97.88%	Sales & support
WISeKey India Private Ltd ³	INR 1,000,000	45.90%	45.90%	Sales & support
WISeKey IoT Japan KK	JPY 1,000,000	44.65%	58.83%	Sales & distribution
WISeKey IoT Taiwan	TWD 100,000	44.65%	58.83%	Sales & distribution branch
WISeCoin AG	CHF 100,000	90%	90%	Sales & distribution
WISeKey Equities AG	CHF 100,000	100%	100%	Financing, Sales & distribution
WISeKey Semiconductors GmbH	EUR 25,000	100%	100%	Sales & distribution
WISeKey Arabia - Information Technology Ltd	SAR 200,000.00	51%	51%	Sales & distribution
WISe.ART AG	CHF 100,000	87.50%	100%	Sales & distribution
WISeKey Vietnam Ltd	VND 689,400,000	95.75%	95.75%	R&D
SEALSQ Corp	USD 100	44.65%	58.83%	Sales & support
WISeKey (Gibraltar) Limited	GBP 100	100%	100%	Sales & support
WISeSat.Space AG	CHF 100,000	100%	100%	Sales & distribution
SEALSQ USA, Ltd	USD -	44.65%	n/a	Sales & distribution
Trust Protocol Association	CHF -	100%	100%	Association cofounded by WISeKey Equities AG involved in Internet security

1. Formerly WISeKey Semiconductors SAS

2. 50% owned by WISeKey SA and 50% owned by WiseTrust SA

3. 88% owned by WISeKey SAARC which is controlled by WISeKey International Holding AG

Related party transactions and balances

Related Parties (in USD'000)	Receivables as at		Payables as at		Unaudited Net expenses to in the 6 months ended June 30,		Unaudited Net income from in the 6 months ended June 30,	
	June 30, 2024 (unaudited)	December 31, 2023	June 30, 2024 (unaudited)	December 31, 2023	2024	2023	2024	2023
1 Carlos Moreira	1	-	439	460	-	-	-	-
2 Peter Ward	-	-	1,777	295	-	-	-	-
3 John O'Hara	-	-	158	-	-	-	-	-
4 María Pía Aqueveque Jabbaz	-	-	15	10	31	85	-	-
5 Philippe Doubre	-	-	6	-	6	44	-	-
6 David Fergusson	-	-	42	10	151	30	-	-
7 Jean-Philippe Ladisa	-	-	15	14	89	85	-	-
8 Philippe Monnier	-	-	6	-	6	-	-	-
9 Ruma Bose	-	-	33	11	28	-	-	-
10 Cristina Dolan	-	-	14	10	88	45	-	-
11 Danil Kerimi	-	-	22	6	44	-	-	-
12 Eric Pellaton	-	-	14	10	91	44	-	-
13 OISTE	182	178	168	104	155	162	88	47
14 Terra Ventures Inc	-	-	30	31	-	-	-	-
15 GSP Holdings Ltd	-	-	16	16	-	-	-	-
16 SAI LLC (SBT Ventures)	-	-	32	32	-	-	-	-
17 Related parties of Carlos Moreira	-	-	-	-	124	120	-	-
Total	183	178	2,787	1,009	813	617	88	47

1. Carlos Moreira is the Chairman of the Board and CEO of WISeKey. A short-term receivable in an amount of CHF 773 (USD 859) to Carlos Moreira was outstanding as at June 30, 2024, made up of non-business expenses on his company credit card not yet repaid. A short-term payable in an amount of CHF 394,875 (USD 438,534) to Carlos Moreira was outstanding as at June 30, 2024, made up of accrued bonuses and social charges thereon.

2. Peter Ward is a member of the Board and CFO of WISeKey. A short-term payable in an amount of CHF 1,600,083 (USD 1,776,993) to Peter Ward was outstanding as at June 30, 2024, made up of accrued bonuses and social charges thereon, and accrued holiday entitlement.

3. John O'Hara is a member of the board of directors of SEALSQ Corp and the CFO of WISeKey. The payable balance as at, June 30, 2024 relate to accrued bonuses and social charges thereon.

4. María Pía Aqueveque Jabbaz is a Board member of the Group. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to her Board fee.

5. Philippe Doubre is a Board member of the Group. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

6. David Fergusson is a Board member of the Group and chairman of the Group's audit committee and nomination & compensation committee, as well as a shareholder. Mr. Fergusson is also a member of the board of directors of SEALSQ Corp and a member of the audit committee and the nomination & compensation committee of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

7. Jean-Philippe Ladisa is a Board member of the Group, and chairman of the Group's audit committee. The expenses recorded in the income statement in the year to, and the payable balance as at, June 30, 2024 relate to his Board fee.

8. Philippe Monnier is a Board member of the Group. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

9. Ruma Bose is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to her Board fee.

10. Cristina Dolan is a member of the board of directors of SEALSQ Corp and the chair of the audit committee of SEALSQ Corp. Ms. Dolan is also a former Board member of the Group, and former member of the Group's audit committee and nomination & compensation committee. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to her Board fee.

11. Danil Kerimi is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

12. Eric Pellaton is a shareholder, a member of the board of directors of SEALSQ Corp and a member of the audit committee and the nomination & compensation committee of SEALSQ Corp. Mr. Pellaton is also a former Board member of the Group, and former member of the Group's nomination & compensation committee. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

13. The Organisation Internationale pour la Sécurité des Transactions Electroniques ("**OISTE**") is a Swiss non-profit making foundation that owns a cryptographic rootkey. In 2001 WIS@key SA entered into a contract with OISTE to operate and maintain the global trust infrastructures of OISTE. In line with the contract, WIS@key pays a regular fee to OISTE for the use of its cryptographic rootkey. Two members of the Board of Directors of WIS@key are also members of the Counsel of the Foundation which gives rise to the related party situation.

OISTE is also the minority shareholder in WISeCoin AG with a 10% ownership.

The receivable from OISTE as at June 30, 2024 and income recorded in the income statement in the six months ended June 30, 2024 relate to the facilities and personnel hosted by WISeKey SA and WISeKey International Holding Ltd on behalf of OISTE, as well as marketing costs paid by WISeKey International Holding Ltd on behalf of OISTE. In the six months ended June 30, 2024, the Group invoiced OISTE a total of CHF 79,302 (USD 87,849). The payable to OISTE as at June 30, 2024 and expenses relating to OISTE recognized in the six months ended June 30, 2024 are made up of license and royalty fees for the six months ended June 30, 2024 under the contract agreement with WISeKey SA.

14. Terra Ventures Inc has a 49% shareholding in WISeKey SAARC Ltd. Terra Ventures granted a GBP 24,507 loan to WISeKey SAARC Ltd on January 24, 2017. The loan is non-interest bearing and has no set repayment date.

15. GSP Holdings Ltd is a former shareholder in WISeKey SAARC Ltd. GSP Holdings Ltd granted a GBP 12,500 loan to WISeKey SAARC Ltd on February 2, 2017. The loan is non-interest bearing and has no set repayment date.

16. SAI LLC, doing business as SBT Ventures, is a former shareholder in WISeKey SAARC Ltd. SAI LLC granted a GBP 25,000 loan to WISeKey SAARC Ltd on January 25, 2017. The loan is non-interest bearing and has no set repayment date.

19. Two immediate family members of Carlos Moreira were employed by WISeKey SA in the six months ended June 30, 2024. In line with ASC 850-10-50-5, transactions involving related parties cannot be presumed to be carried out on an arm's-length basis. The aggregate employment remuneration of these two immediate family members amounted to CHF 111,812 (USD 123,626) recorded in the income statement in the six months ended June 30, 2024.

Note 36. Subsequent events

Change of Chief Financial Officer

On July 1, 2024, Peter Ward retired and John O'Hara was appointed Chief Financial Officer of the Group.

Short-term receivable from Carlos Moreira

After June 30, 2024, Carlos Moreira repaid in full the short-term receivable balance of CHF 773 (USD 859) outstanding as at June 30, 2024, and made up of non-business expenses on his company credit card (see Note 9 and Note 35).

L1 SPA

After June 30, 2024, L1 converted the remaining balance of USD 1.1 million on the Second L1 Note and USD 450,000 on the Third L1 Note, resulting in the delivery of a total of 4,103,597 Ordinary Shares of SEALSQ.

Anson SPA

After June 30, 2024, Anson converted USD 450,000 of the Third Anson Note, resulting in the delivery of a total of 1,275,000 Ordinary Shares of SEALSQ.

Incorporation of SEALCoin Ltd

On July 16, 2024, the Group incorporated SEALCoin Ltd in Switzerland, to serve as a Special Purpose Vehicle to house its decentralized technology project, SEALCOIN.

Options granted under WISeKey ESOP

After June 30, 2024, a total of 20,808 options on WIHN Class B Shares were granted under the Group's Employee Stock Option Plans.

Note 37. Impacts of ongoing conflicts

Impacts of the war in Ukraine

Following the outbreak of the war in Ukraine in late February 2022, several countries imposed sanctions on Russia, Belarus and certain regions in Ukraine. There has been an abrupt change in the geopolitical situation, with significant uncertainty about the duration of the conflict, changing scope of sanctions and retaliation actions including new laws.

The WISeKey group does not have any operation or customer in Russia, Belarus or Ukraine, and, as such, does not foresee any direct impact of the war on its operations. However, the war has also contributed to an increase in volatility in currency markets, energy prices, raw material and other input costs, which may impact the Group's supply chain in the future.

As at June 30, 2024, WISeKey has assessed the consequences of the war for its financial disclosures and considered the impacts on key judgments and significant estimates, and has concluded that no changes were required. WISeKey will continue to monitor these areas of increased risk for material changes.

Impacts of the Israel– Hamas conflict

Israel's declaration of war on Hamas in October 2023 has degraded the geopolitical environment in the region and created uncertainty.

The WISeKey group does not have any operation or customer in that region, and, as such, does not foresee any direct impact of the war on its operations. However, depending on its duration and intensity, the war may adversely affect the global economy, financial markets and the Group's supply chain in the future.

As at June 30, 2024, WISeKey has assessed the consequences of the war for its financial disclosures and considered the impacts on key judgments and significant estimates, and has concluded that no changes were required. WISeKey will continue to monitor these areas of increased risk for material changes.