

# From chip to cloud – 25 years of trendsetting innovation

The u-blox Annual Report 2022



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Dear Shareholders,

The year 2022 marks the 25th anniversary of u-blox and represents the best year in our history. We are proud of the incredible journey since our beginnings and the very hard work and dedication of our entire team in transforming u-blox from an ETH spin-off with some novel positioning components, to a global leader in innovative chip to cloud solutions for the automotive, industrial and consumer markets.

Thus, for full year 2022, we reported record numbers in terms of revenue, profitability, EBITDA, and cash-flow with an orderbook reaching far into 2023. We achieved buoyant revenue growth of 51% to CHF 624 million, expanded adjusted EBITDA by 136% to CHF 170 million, grew adjusted net profit by 376% to CHF 109 million and generated free cash flow of CHF 66 million.

While 2022 was still a challenging year with regards to the supply chain environment, we were able to successfully manage tight component availability and fulfilled customer demands to a large extent. Thanks to established long-term relationships, we were able to work around specific shortages and succeeded in negotiating with suppliers and subcontractors. Our diversified supplier base gave us the ability to support our customers with strongly growing

demand in their markets. Our technology helps our customers to gain markets share and win the leading position in the market.

### **Strong growth across all segments and regions**

Demand was strong throughout all of our business segments, end markets and geographies. All regions contributed to the encouraging growth, with APAC showing the strongest increase. We also noted continued broad demand for our solution offerings across all applications.

During the year, our largest segment, Industrial solutions, grew across the board thanks to strong ramp-ups with existing and new customers in core applications like network infrastructure, healthcare, automation and telematics. Our Automotive segment also experienced robust growth, mainly in demand for navigation and infotainment applications, whereby the shift of end users demand towards more electric vehicles accelerated our customers' demand for our products. Higher revenues in the consumer segment, our smallest segment, were the result of increased demand for telematics and wearables.

### **Leading with innovation**

2022 was again a year of innovation across our entire portfolio. We introduced new products and enhanced functionalities for providing



customers an even larger set of solutions. During the year, we launched a total of 15 new products and shipped more than 100 million units to customers which is testimony to the continued successful implementation of our focused research and innovation strategy across the verticals we are presently in.

### **Investing in our future**

Over the last 15 years, we have persistently invested more than CHF 1 billion in our core Intellectual Property (IP), which laid the foundation for our competitive advantage by building our strong capabilities in radio technology and signal processing, all cast into our own silicon, and thus being able to offer our customers a value-adding edge for easy integration and secure upgrades to their solutions.

Our strong balance sheet and cash position allows us to invest further into new technologies, by introducing new products and capabilities for us to grow our business organically, and by acquisitions and partnerships. As such, as part of our growth strategy, we completed a total of 18 acquisitions over the years, mainly with a focus on adding technology, know-how, and people. These investments have created a sustainable competitive advantage over our competitors and have positioned us well to take advantage of multiple opportunities arising from the widespread IoT adoption and the desire for connectivity throughout the world.

Several partnerships add possibilities for our customers in a synergistic way.

Our strategy going forward is to continue to lead with innovative solutions that combine core technology in the form of chipsets and modules, together with services.

Innovation is our life blood, and our growth is fueled by our diverse, global talent pool of employees who help u-blox stay ahead of the global IoT innovation curve and the competition.

We offer solutions that exceed our customers' expectations and we design our products with socio-economic and eco-friendly factors in mind. Our products have a very small CO<sub>2</sub> footprint and enable enormous improvements of the environmental friendliness in all the applications where they are used. We stand behind our products as we are offering high-quality, long-lasting, and compliant with relevant standards, and we continuously take steps to improve and streamline our supply and distribution channels.

### **We are optimistic for 2023 and beyond**

We are well positioned to take advantage of multiple opportunities arising from the widespread IoT adoption and the desire for connectivity throughout the world. For FY 2023, we expect continued growth throughout regions and product lines, and we expect our revenues to continue to grow.

Our continued confidence is based on our commitment to advance the four pillars of our strategy. These pillars are:

- **Maintain and grow our leading position:**

We provide existing and potential clients with innovative and high-quality products, solutions and capabilities that leverage our core IP. We aim to be a strong global brand by expanding the channels in international markets.

- **Technology and innovation:** We continue to strengthen, expand, and assess our product portfolio. Our focus is geared towards optimal growth and planning for the next 2–5 years ahead. As technology is vastly expanding and our clients are becoming more informed about our solutions, we must ensure that our designs and products are leading edge and high quality.

- **Operational excellence:** In today's highly competitive marketplace, the continuous optimization of operational efficiencies is necessary to effectively compete, gain market share and as well as maintain a long-term sustainable growth. Through a holistic approach and a business culture that promote teamwork and problem-solving, in 2022 we established a number of flexible and dynamic initiatives designed to maximize internal operational and financial efficiencies, increase our competitiveness in the global marketplace and improve customer satisfaction. We believe these initiatives have made our business more resilient.

- **Strategic partnerships and acquisitions:** We will continue to pursue new opportunities that complement and augment our own capabilities and intellectual property. We entered into new partnerships that accelerate access to emerging markets and enhance our position as a leading supplier for innovative positioning and connectivity solutions.



While having leading technology and products are important factors in winning and retaining customers, we strongly believe that our socially responsible practices positively impact our brand identity and help bolster customer trust and respect. We are publishing our third Sustainability Report in 2023, which reinforces our commitment to important issues in the areas of business ethics, employees, environmental responsibility, supply chain responsibility and our communities.

On behalf of our Board of Directors, we would like to extend our appreciation and recognition to our diverse and talented employees for their enormous contribution and commitment over the years which has been the catalyst for transforming u-blox into a competitive company with a resilient business. We would also like to extend our thanks and recognition to our various partners, customers, suppliers, and our shareholders for their ongoing support.

Finally, we would like to express our thanks and appreciation to Thomas Seiler who led this outstanding company for more than two

decades as its CEO. We are proud to say that together with our highly dedicated and engaged team of experts, we have created a world leader in industrial IoT. Furthermore, while Thomas Seiler will continue to support u-blox as a member of the board and strategic advisor, we are confident that his successor, Stephan Zizala, who brings more than 20 years of management and engineering experience focused on microcontroller and power semiconductors, as well as global customer experience in the industrial and automotive sectors, will be leading u-blox to new heights.

Yours faithfully,

Thomas Seiler  
CEO until  
31 December,  
2022

Roland Jud  
CFO

André Müller  
Chairman

# Financial highlights 2022

Revenue in MCHF <b>624</b>	EBITDA (adjusted) in MCHF <b>170</b>	Operating profit (EBIT) (adjusted) in MCHF <b>131</b>
Net profit before minorities in MCHF <b>102</b>	Net profit before minorities (adjusted) in MCHF <b>109</b>	Gross profit margin (adjusted) in % <b>49.2</b>
Operating cash flow in MCHF <b>117</b>	Free cash flow in MCHF <b>66</b>	Equity ratio in % <b>61.6</b>

# 2022 at a glance



## We launched the world's smallest LTE Cat 1 module

Within two months after launching the world's smallest Long Term Evolution (LTE) Category (Cat) 1 module with global coverage, over one million units were shipped. LTE Cat 1 provides important features for connected healthcare applications, such as outpatient monitoring and mobile medical alert systems.



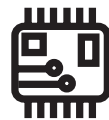
## We expanded PointPerfect worldwide

PointPerfect, our advanced GNSS augmentation data service designed from the ground up to be ultra-accurate, ultra-reliable, and ubiquitously available, was expanded worldwide. PointPerfect brings a proven GNSS augmentation service to the mass market for applications such as robotics, last mile delivery and automated driving.



## We created the world's smallest GNSS module

In June 2022, we brought to market the world's smallest Global Navigation Satellite System (GNSS) module, roughly half the size of competing products. The 4.5 by 4.5-millimeter MIA-M10's miniature form factor allows developers to design highly compact solutions for a growing market of tracking solutions, wearables and other consumer devices.



## We launched our new pioneering Explorer Kits

Throughout 2022, we released a wide range of full-featured explorer kits combining our unique blend of positioning and connectivity modules and services. The kits demonstrate our solutions capabilities, and support faster time-to-market for new product ideas.



## We released the ubxlib GitHub software repository

Launched in June 2022, ubxlib GitHub repository simplifies the development experience by providing a library of software examples for host microcontrollers that make it easy to control u-blox modules for key use cases.



## Our new Bluetooth compact indoor positioning boards

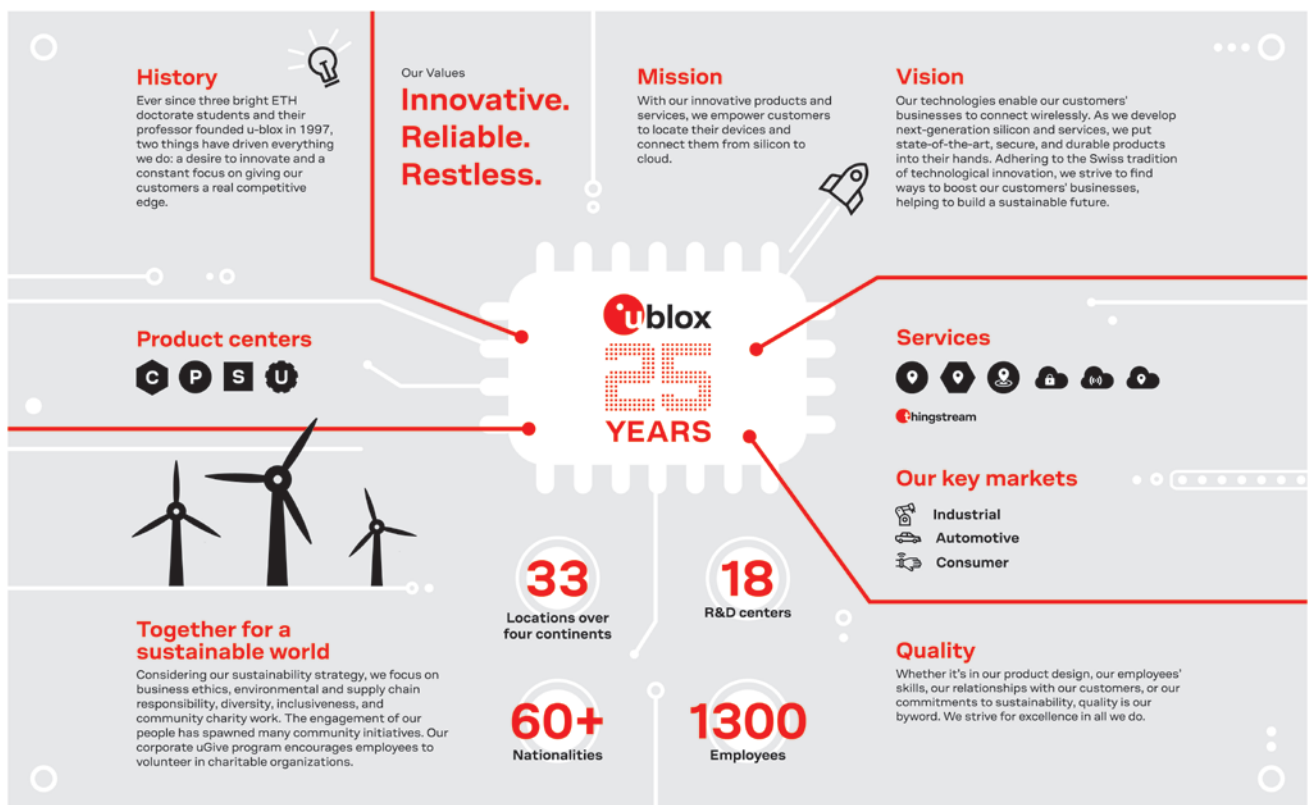
ANT-B11 and ANT-B10 launched in 2022, help solve the ongoing indoor location challenge using the angle of arrival (AoA) and the angle of departure (AoD) of a Bluetooth direction finding signal in real-time with sub-meter accuracy, ideal for tracking solutions.

# Reflecting on the last 25 years while charting our growth course ahead

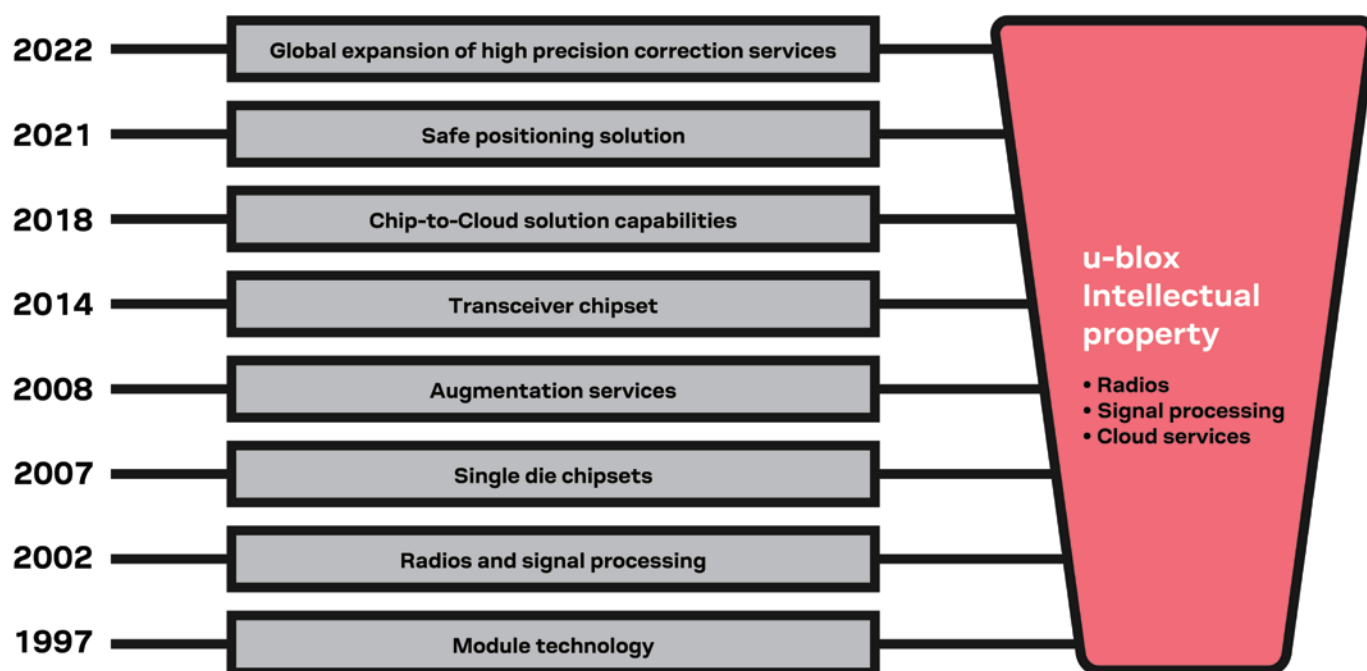
2022 marked our 25th anniversary since our founding in Zurich, Switzerland, in 1997. Thomas Seiler, Chief Executive Officer (CEO) of u-blox from March 2002 until his retirement in December 2022, reflects on the quarter century journey u-blox took to reach its chip-to-cloud position within the Internet of Things (IoT). Stephan Zizala, the new CEO of u-blox, since 1 January 2023, also shares his thoughts as he charts the course ahead.

## Thomas Seiler, retired CEO, u-blox

Our founders started u-blox 25 years ago based on their post-graduate research project and invention at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. The world's smallest Global Positioning System (GPS) module was simple and ingenious, and it wasn't long before the first u-blox module established itself as the de-facto industry standard for GPS receivers in industrial applications.



## A quarter of a century



Passionate about remaining independent of semiconductor providers, the founders set out to develop their own positioning chip and surprised the world with their first GPS chipset in 2002.

**“Today, we create the hardware, services, and solutions that make the IoT tick from chip to cloud and grow revenue much faster than the semiconductor market average.”**

Within the next five years, u-blox achieved impressive growth and financial results and, on its tenth anniversary in 2007, completed a successful Initial Public Offering (IPO) on the SIX Swiss Stock Exchange.

In 2009, we added wireless cellular communication technology to our positioning offering, and in 2014 we added short range radio data transmission based on Bluetooth and Wi-Fi to our portfolio so that our customers could connect their devices to the cloud. 2022 we strengthened our services portfolio adding new communications and localization offerings.

Many years of strategic acquisitions and deep Research and Development (R&D) investments guided u-blox further along its journey from a Swiss university spin-off to a multinational leader in positioning and wireless communication solutions for automotive, industrial, and consumer markets. Today we offer from chip to cloud with 25 years of trendsetting innovation.

A quarter century later, our founders Jean-Pierre Wyss and Andreas Thiel are still pivotal members of our executive team. At our core and in our hearts, we remain energized and innovative in our approach to democratizing and shaping the IoT alongside our dynamic customers across the globe.

Leading this outstanding company was both a privilege and a challenge; together with our enthusiastic team of experts, we created a world leader in industrial IoT.

**Thomas Seiler, Chief Executive Officer  
2002–2022**



## Stephan Zizala, CEO, u-blox

1997 was a special year for me, too: After experiencing the vibrant Silicon Valley high-tech ecosystem, I dived deep into technology for my PhD project focusing on software for chip design. From 2001 onwards, I changed my course to the business side of high-tech. Building strong teams which create market-shaping innovations and developing them into a substantial business are intrinsic drivers for me. Therefore, joining u-blox – a key innovator in positioning and connectivity solutions – feels like a natural evolution.

Since starting at u-blox on October 1, 2022, I have had the opportunity to talk to more than 100 customers, hundreds of team members, dozens of analysts, investors, and journalists. This has given me quite a comprehensive picture of our company: We are innovative, we are precise, we are reliable, and we make it easy for our customers to use our products. With about 70 nationalities globally, we are a highly diverse, open-minded, enthusiastic team of experts.

We have a proven strategy, and we will further advance it: We will keep our focus on automotive and industrial customers where we can contribute and capture superior value. We will continue to foster our innovation power to create ground-breaking positioning and connectivity solutions. We will enhance operational excellence to create additional value from our larger business. We will foster a high-performance innovation culture driving our market shaping innovations to large scale commercial success.

**“u-blox is a great success story. With focus, market shaping innovations, operational excellence, and a high-performance innovation culture we will continue to excel.”**

I thank the u-blox Board of Directors for the trust placed in me to lead this amazing team. I thank my u-blox colleagues for the constructive dialog, which will make us better every single day.

**Stephan Zizala, Chief Executive Officer**





Creating value

# Our solution attitude creates value

At u-blox we are always asking the question: Where should we invest for innovation? This involves a thorough and constant decision-making process that aims to determine the best avenues to invest at the technological level to fuel our growth. Our partnerships with market leaders are essential to this, and to our value creation process.

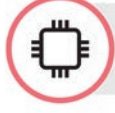
By turning in-depth market and application understanding into salient solutions featuring innovative functionality, better cost/performance ratios, lower implementation risk, and less time to market, u-blox creates value for customers, shareholders, employees, partners, and communities around the world within which we operate.

## **It's no longer just about the hardware**

A solution is no longer just about the hardware. It is now also about the u-blox value-added service, which improves how the hardware works. Of course, the hardware will work without the service. However, the service decisively enhances functionality. We generate extraordinary value when we combine the two and create the best solution for our customers.

**Applications demand wireless connectivity**

Only wireless connectivity can deliver the capillarity for connecting billions of devices to the cloud

**Technology develops rapidly**

Wireless technology continues to become increasingly complex, while most customers have little technical knowledge

**Customers seek to minimize implementation risk**

Wireless technology requires expertise for successful implementation, and outsourcing is the solution for an efficient go-to-market plan

**u-blox delivers**

Providing value through our innovative and reliable products and services that enable seamless connectivity, efficient asset tracking, and accurate positioning, ultimately improving productivity and safety for our customers.

### What does it take to be a chip to cloud solution provider today?

We start with our customers' problems and our belief that the solution must be very easy to implement, and then identify and deliver on the four main IoT pain points: Position, Connect, Compute and Cloud integration.

### The Thingstream.io platform is an industry must-have device enhancing platform

Our comprehensive end-to-end solutions portfolio solves the complexity of IoT implementation based on global industry practice. We reduce the cost of ownership by offering a product with the relevant "as-a-Service" solutions at a reasonable price with on-demand scalability. The u-blox Thingstream.io platform is rapidly establishing itself across the IoT industry as a must-have for enhancing device capabilities while ensuring rapid go-to-market deployment.

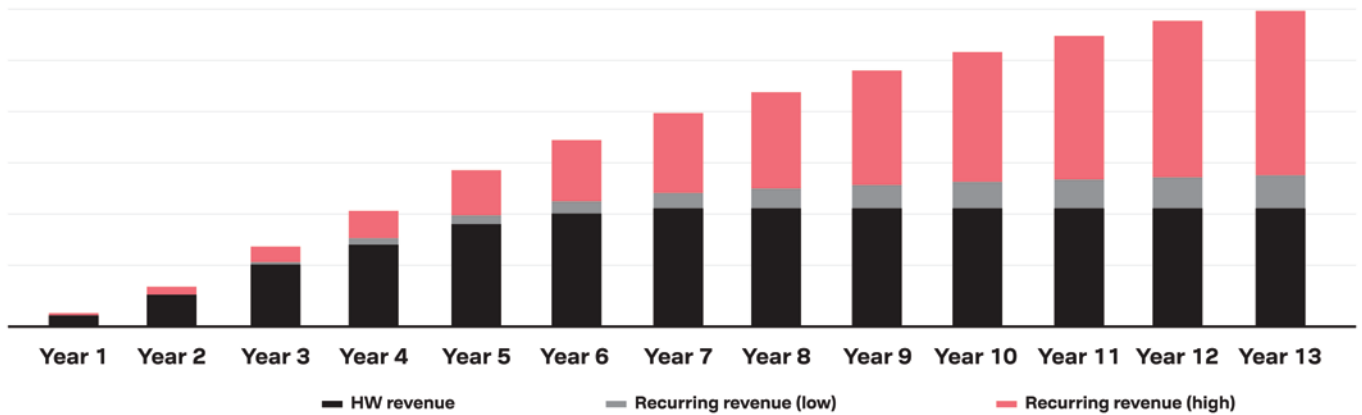
### Customer projects with recurring services add 20% to 100% of hardware revenue

The u-blox Thingstream.io platform has a substantial cumulative effect on u-blox recurring revenue and has proven essential to our value proposition. Our IoT Communication-as-a-Service, IoT Location-as-a-Service, and IoT Security-as-a-Service offerings are all managed over the platform. As a result, they have a robust cumulative effect on revenue. Over the customer project lifetime, recurring service revenue can add 20% to 100% on top of the original hardware revenue.

### Focus on fast growth markets driven by persistent megatrends

As the world continues to digitize across most aspects of life, u-blox experiences strong growth drivers within its market areas. Megatrends such as the relentless automation and digitization across all industries, the goal of an autonomous automobile and new forms of mobility, as well as the expansion of wearables due to low power solutions, continue to support our growth favorably.

Service revenues cumulating over lifetime of underlying hardware



Revenue profile of a typical use case, with cumulating hardware revenues and service subscriptions

We continue to gain significant market share by focusing on fast growing markets where we can extract value due to our competitive advantage by combining positioning with connectivity and our service offerings for communication, location, and security.

margins over the lifetime of our products and solutions. Three quarters of our gross margin is from products with our proprietary chip sets.

**“We invested in developing a diversified portfolio and had the competence to help customers turn their designs around quickly.”**

### Delivering when others could not

Additionally, we gained market share during the semiconductor shortage crisis thanks to our product and supply chain diversity. Through our supply chain’s resilience, we were able to offer enough products to satisfy the growing needs of our customers. Our business growth strategy allowed us to profit from an enlarged portfolio and the competence to help customers to turn their designs around quickly. Thus, we were well positioned to deliver when others could not, which helped us substantially increase our customer base.

### We capitalize R&D during development and harvest revenue over a very long time

Through our strategic and sustained investment in product platforms, we have seen a continuous return on our investment over a decade. We are achieving strong and long-lasting returns on our R&D investment.

**“Of course, the hardware will work without the service. However, the service decisively enhances functionality. We generate extraordinary value when we combine the two and create the best solution for the market.”**

### We have invested CHF 1 billion in our core IP

Having invested CHF 1 billion in our core Intellectual Property (IP) over the last 15 years, we have achieved a sustainable competitive advantage and created significant value with increasing

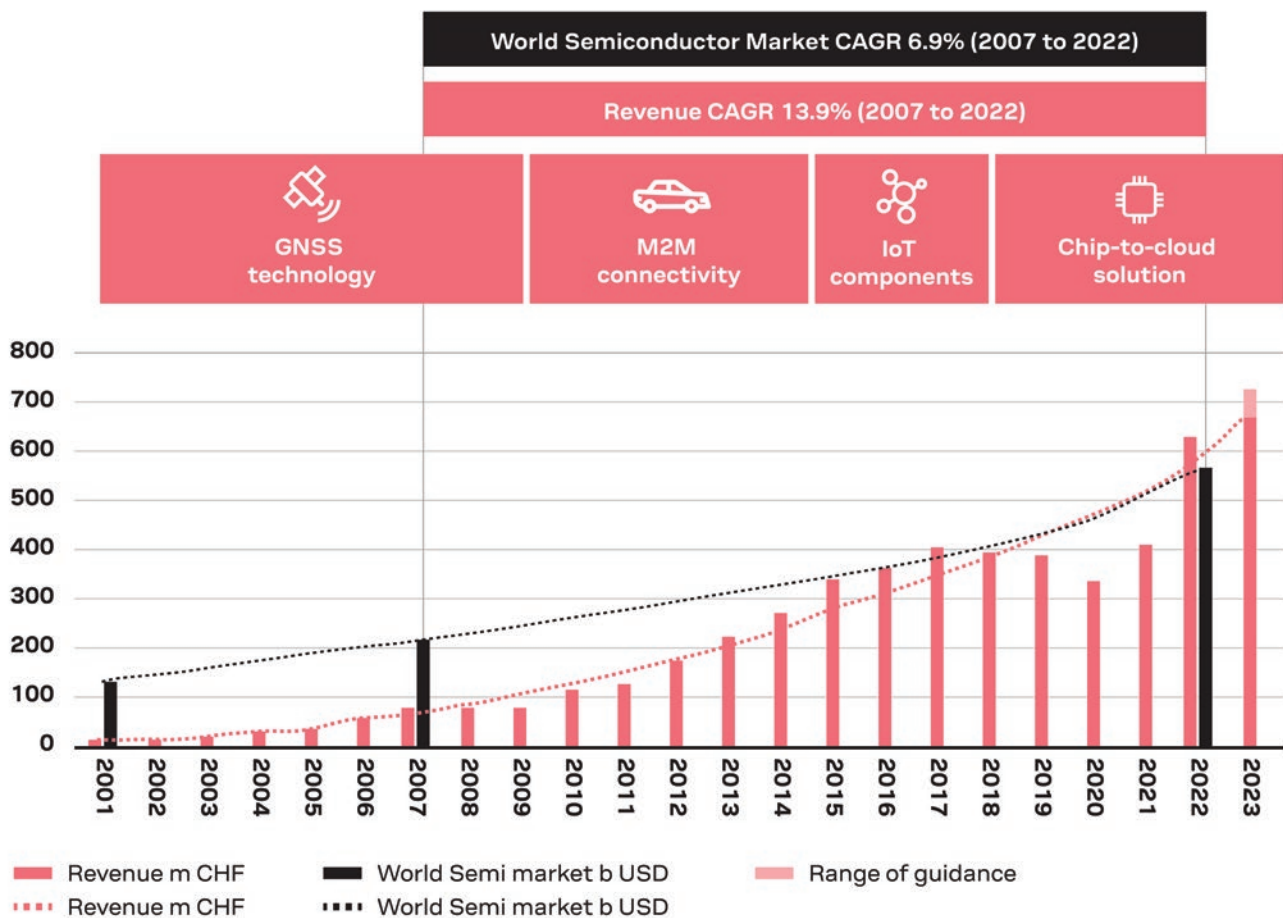


## More than double the global semiconductor market historical revenue CAGR

With its proprietary chip sets, u-blox is highly competitive within the IoT industry. Our chip-to-cloud strategy has progressively driven our revenue Compound Annual Growth Rate (CAGR) to more than double the global semiconductor market historical revenue CAGR (from 2007 to 2022). Our innovation, anticipation of, and adaptation to semiconductor market trends, have helped us create value for our stakeholders worldwide.

## We are a trusted IoT partner in industrial and automotive markets

We have everything in place at u-blox: The team, the attitude, the culture, the processes, our expertise, and our unrivaled technology portfolio to continue to grow and benefit as automation and mobility drive expansion across our markets worldwide.



Source: u-blox, World Semiconductor Trade Statistics



# Financial summary





## Financial summary

### Financial highlights (adjusted)

in CHF million	2022	2021	2020
<b>Revenue</b>	<b>623.9</b>	<b>414.1</b>	<b>333.5</b>
Growth rate over previous year	50.7%	24.2%	-13.4%
<b>Gross Profit adjusted<sup>2)</sup></b>	<b>307.2</b>	<b>193.9</b>	<b>150.9</b>
Growth rate over previous year	58.4%	28.5%	-13.8%
in % of revenue	49.2%	46.8%	45.3%
<b>EBITDA<sup>1)</sup> adjusted<sup>2)</sup></b>	<b>169.9</b>	<b>72.1</b>	<b>42.2</b>
Growth rate over previous year	135.8%	71.0%	-41.8%
in % of revenue	27.2%	17.4%	12.5%
<b>Operating Profit (EBIT) adjusted<sup>2)</sup></b>	<b>131.3</b>	<b>35.1</b>	<b>18.0</b>
Growth rate over previous year	274.1%	95.2%	-58.3%
in % of revenue	21.0%	8.5%	5.4%
<b>Net Profit before minority interest adjusted<sup>2)</sup></b>	<b>109.0</b>	<b>22.9</b>	<b>2.9</b>
Growth rate over previous year	376.3%	684.9%	-90.9%
in % of revenue	17.5%	5.5%	0.9%
<b>Cash generated from operating activities</b>	<b>117.3</b>	<b>97.7</b>	<b>39.5</b>
Growth rate over previous year	20.1%	147.2%	-48.9%
in % of revenue	18.8%	23.6%	11.8%
<b>Equity</b>	<b>412.0</b>	<b>302.0</b>	<b>282.5</b>
in % of total assets	61.6%	59.9%	54.6%
Adjusted <sup>2)</sup> earnings per share (in CHF)	15.65	3.30	0.42

<sup>1)</sup> EBITDA (earnings before interest, taxes, depreciation and amortization) calculated by adding depreciation and amortization to profit from operations (EBIT), in each case determined in accordance with IFRS.

<sup>2)</sup> excl. share based payments, impacts based on IAS-19, amortization of intangible assets acquired, impairments and non-recurring expenses.

### Financial highlights (IFRS)

in CHF million	2022	2021	2020
<b>Revenue</b>	<b>623.9</b>	<b>414.1</b>	<b>333.5</b>
Growth rate over previous year	50.7%	24.2%	-13.4%
<b>Gross Profit</b>	<b>306.8</b>	<b>193.6</b>	<b>150.9</b>
Growth rate over previous year	58.5%	28.7%	-13.8%
in % of revenue	49.2%	46.7%	45.1%
<b>EBITDA<sup>1)</sup></b>	<b>163.8</b>	<b>65.9</b>	<b>35.4</b>
Growth rate over previous year	148.5%	85.9%	-45.7%
in % of revenue	26.3%	15.9%	10.6%
<b>Operating Profit (EBIT)</b>	<b>121.8</b>	<b>25.9</b>	<b>-64.8</b>
Growth rate over previous year	370.5%	139.9%	-393.9%
in % of revenue	19.5%	6.3%	-19.4%
<b>Net Profit before minority interest</b>	<b>101.8</b>	<b>15.4</b>	<b>-64.9</b>
Growth rate over previous year	563.0%	123.7%	-602.3%
in % of revenue	16.3%	3.7%	-19.4%
<b>Cash generated from operating activities</b>	<b>117.3</b>	<b>97.7</b>	<b>39.5</b>
Growth rate over previous year	20.1%	147.2%	-48.9%
in % of revenue	18.8%	23.6%	11.8%
<b>Equity</b>	<b>412.0</b>	<b>302.0</b>	<b>282.5</b>
in % of total assets	61.6%	59.9%	54.6%
Earnings per share (in CHF)	14.60	2.21	-9.32

<sup>1)</sup> EBITDA (earnings before interest, taxes, depreciation and amortization) calculated by adding depreciation and amortization to profit from operations (EBIT), in each case determined in accordance with IFRS.

## Financial summary

### Revenue breakdown

u-blox operates in two segments:

#### ■ Positioning and wireless products

u-blox develops and sells chips and modules designed for positioning and wireless connectivity. Its products and solutions are used in automotive, industrial and consumer applications. Segment revenue amounted to CHF 622.9 million in 2022 as compared to CHF 413.5 million in 2021.

#### ■ Wireless services

u-blox also offers wireless communication technology services in terms of reference designs and software. In 2022, segment revenue was CHF 34.1 million compared to CHF 35.8 million in 2021 (including intra group revenue).

in CHF 1'000	Jan-Dec 2022		Adjustments <sup>2)</sup>	Jan-Dec 2022		Jan-Dec 2021	
	(IFRS)	in %		(adjusted)	in %	(adjusted)	% revenue
<b>Revenue</b>	<b>623'852</b>	100.0		<b>623'852</b>	100.0	<b>414'057</b>	100
Cost of sales	-317'088	-50.8	387	-316'701	-50.8	-220'126	-53.2
<b>Gross Profit</b>	<b>306'764</b>	49.2	<b>387</b>	<b>307'151</b>	49.2	<b>193'931</b>	46.8
Distribution and marketing expenses	-44'906	-7.2	1'340	-43'566	-7.0	-38'887	-9.4
Research and development expenses	-111'566	-17.9	5'285	-106'281	-17.0	-102'234	-24.7
General and administrative expenses	-30'490	-4.9	2'487	-28'003	-4.5	-22'854	-5.5
Other income	1'975	0.3		1'975	0.3	5'139	1.2
<b>Operating Profit (EBIT)</b>	<b>121'777</b>	19.5	<b>9'499</b>	<b>131'276</b>	21.0	<b>35'095</b>	8.5
Finance income	561	0.1		561	0.1	3'947	1.0
Finance costs	-2'075	-0.3		-2'075	-0.3	-6'936	-1.7
Share of loss of equity-accounted investees, net of taxes	-119	-0.0		-119	-0.0	-1'819	-0.4
<b>Profit before income tax (EBT)</b>	<b>120'144</b>	19.3	<b>9'499</b>	<b>129'643</b>	20.8	<b>30'287</b>	7.3
Income tax expense	-18'372	-2.9	-2'226	-20'598	-3.4	-7'395	-1.8
<b>Net Profit</b>	<b>101'772</b>	16.3	<b>7'273</b>	<b>109'045</b>	17.5	<b>22'892</b>	5.5
Minority interests	0	0.0		0	0.0	-21	-0.0
<b>Net Profit, attributable to equity holders of the parent</b>	<b>101'772</b>	16.3	<b>7'273</b>	<b>109'045</b>	17.5	<b>22'871</b>	5.5
Earnings per share in CHF	14.60			15.65		3.30	
Diluted earnings per share in CHF	14.34			15.36		3.30	
Operating Profit (EBIT)	121'777	19.5	9'499	131'276	21.0	35'095	8.5
Depreciation and amortization	41'990	6.8	-3'336	38'654	6.2	36'976	8.9
<b>EBITDA<sup>1)</sup></b>	<b>163'767</b>	26.3	<b>6'163</b>	<b>169'930</b>	27.2	<b>72'071</b>	17.4

<sup>1)</sup> Management calculates EBITDA (earnings before interest, taxes, depreciation and amortization) by adding back depreciation and amortization to Operating Profit (EBIT), in each case determined in accordance with IFRS.

<sup>2)</sup> Adjustments are impacts of share-based payments, pension calculation according to IAS-19, non-recurring expenses, impairment and amortization of intangible assets acquired

2022 was a year of record revenues, improved margins and increased cash flows from operating activities. For the full-year 2022, u-blox generated total revenues of CHF 623.9 million, an EBIT (adjusted) of CHF 131.3 million and an EBITDA (adjusted) of CHF 169.9 million. Cash flow from operating activities amounted to 117.3 million. During the year, demand for u-blox's products was robust in all regions and across all applications sectors. The demand was fueled by the launch of numerous products, which strongly enhanced solution capabilities across its entire platform. Favorable product mix changes and price increases expanded the gross

margin. The strengthened USD/CHF exchange rate impacted the topline by 4.1%, resulting in a currency adjusted revenue increase of 46.6%.

In APAC, full year 2022 revenues amounted to CHF 245.0 million, compared to CHF 152.7 million in 2021 (+60.4%). This was driven by strong growth with applications in infotainment, navigation, telematics, and healthcare, mainly in Japan, Australia/New Zealand and rest of APAC.

## Financial summary

Revenues in EMEA increased to CHF 176.0 million in 2022 from CHF 124.8 million in 2021 (+41.0%). This was driven by strong growth with applications in infotainment and navigation, industrial automation, and asset tracking.

AMEC revenues increased to CHF 202.9 million in 2022 from CHF 136.6 million in 2021 (+48.5%). This was driven by strong growth with applications in infotainment, navigation, telematics and healthcare applications.

In 2022, u-blox continued customer diversification across all markets and products. u-blox's largest end-customer accounted for 7% of revenue (previous year: 3%), the 10 largest end-customers accounted for about 27% of revenue (previous year: 17%).

### Gross profit

Contribution margin improved in 2022 significantly and therefore adjusted gross profit increased by 58.4% to CHF 307.2 million in 2022 from CHF 193.9 million in 2021, resulting in a by 240 bps improved adjusted gross profit margin of 49.2% (2021: 46.8%).

### Distribution and marketing activities

Distribution and marketing expenses (adjusted) increased by 12.0% from CHF 38.9 million in the previous year to CHF 43.6 million in 2022. Distribution and marketing expenses rose in absolute amount as due to the strong growth of business and the increased contribution bonuses. Although due to operating leverage as percentage of revenue, distribution and marketing expenses (adjusted) decreased to 7.0% in 2022 compared to 9.4% in previous year.

### Research and product development

u-blox invested further into future products although R&D increased only slightly due to good cost management. The adjusted R&D expenses in 2022 amounted to CHF 106.3 million as compared to CHF 102.2 million in 2021. As percentage of revenue, adjusted R&D expenses in 2022 therefore reduced to 17.0% (2021: 24.7%).

### Share based payment

Share based payment expenses recognized according to IFRS in 2022 were CHF 4.4 million as compared to CHF 3.3 million in 2021.

### Operating Profit (EBIT)

With CHF 131.3 million in 2022 adjusted EBIT, we reached a new record level (2021: CHF 35.1 million). Accordingly, the adjusted EBIT margin increased strongly to 21.0% in 2022 as compared to 8.5% in 2021. Adjusted operating profit before depreciation and amortization (EBITDA) amounted to CHF 169.9 million (2021: 72.1 million), an increase of 135.8% in 2022. The increase was primarily due to strong topline growth at improved contribution margins and due to effective management of operational expenses.

### Finance income and costs

Finance income was CHF 0.6 million. Finance costs of CHF 2.1 million consisted primarily of interest payments for the outstanding bond and interest for leasing under IFRS-16. The share of loss of equity-accounted investees net of tax in the financial result was CHF 0.2 million.



## Financial summary

### Condensed consolidated statement of financial position

in CHF 1'000	December 31, 2022 (audited)	December 31, 2021 (audited)
<b>ASSETS</b>		
<b>Current assets</b>		
Cash and cash equivalents	137'746	83'245
Marketable securities	0	500
Trade accounts receivables	65'370	51'063
Other assets	149'237	66'679
<b>Total current assets</b>	<b>352'353</b>	<b>201'487</b>
<b>Non-current assets</b>		
Property, plant and equipment	12'627	11'328
Right-of-use assets	34'021	31'962
Goodwill	55'616	58'216
Intangible assets	203'455	190'440
Financial assets (incl. equity accounted investees)	2'240	1'851
Deferred tax assets	8'312	9'188
<b>Total non-current assets</b>	<b>316'271</b>	<b>302'985</b>
<b>Total assets</b>	<b>668'624</b>	<b>504'472</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current liabilities</b>	190'108	79'492
<b>Non-current liabilities</b>	66'518	122'972
<b>Total liabilities</b>	<b>256'626</b>	<b>202'464</b>
<b>Shareholders' equity</b>		
Share capital	96'842	105'300
Share premium	23'180	16'600
Retained earnings (incl. treasury shares and CTA)	291'976	180'108
<b>Total equity, attributable to owners of the parent</b>	<b>411'998</b>	<b>302'008</b>
<b>Total liabilities and equity</b>	<b>668'624</b>	<b>504'472</b>

### Net cash generated from operating activities

In 2022, u-blox generated a new record level of cash generated from operating activities of CHF 117.3 million. This represents an increase of 20.1% compared to the previous year (2021: CHF 97.7 million), thanks to the higher topline with improved margins. Investments into inventory to cope with supply constraints prevented an even higher cashflow from operating activities.

### Main investing activities

Investments in property, plant and equipment and intangible assets amounted to CHF 51.0 million in 2022 as compared to CHF 43.1 million in 2021. As

a percentage of revenues, the investment ratio decreased to 8.2% from 10.4% in 2021.

Capitalization of development costs of CHF 41.9 million increased in absolute numbers as compared to the previous year (2021: CHF 36.4 million) but decreased as percentage of total research and development costs. The capitalization rate was lower because of efforts for product re-designs for coping with component supply constraints. As in 2021 also in 2022 no investments in intellectual property rights were made. Investments in software amounted to CHF 1.2 million (2021: CHF 0.6 million), and investments in property, plant and equipment

## Financial summary

### Consolidated cash flow statement

in CHF 1'000	2022	2021
Net Profit	101'772	15'350
Depreciation & Amortization	41'990	40'012
Other non-cash transactions	4'291	3'378
Financial income & financial expense	1'633	4'808
Income tax expense	18'372	5'725
Change in net working capital and provision	-55'665	27'710
Income tax received	4'926	707
<b>Net cash generated from operating activities</b>	<b>117'319</b>	<b>97'690</b>
Net investment into property, plant and equipment	-7'771	-6'177
Net investment into intangibles	-43'163	-36'923
Net investments into financial assets	73	288
Acquisition of subsidiaries, net of cash acquired & participations	-289	1'091
<b>Net cash used in investing activities</b>	<b>-51'150</b>	<b>-41'721</b>
Free Cash Flow (before Acquisition & participations in capital increase)	66'458	54'878
Free Cash Flow	66'168	55'969
Proceeds from exercise of options	6'306	0
Par value reduction / Dividends paid to owners of the parent	-9'047	0
Net proceeds from borrowings	-1'009	-59'986
Payment of lease liabilities	-5'497	-5'018
Non-controlling interests	0	-18
Interest paid	-1'427	-2'787
<b>Net cash used in financing activities</b>	<b>-10'674</b>	<b>-67'809</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>	<b>55'495</b>	<b>-11'840</b>
Cash and cash equivalents at beginning of year	83'245	93'874
Exchange (losses)/gains on cash and cash equivalents	-994	1'211
<b>Cash and cash equivalents at end of year</b>	<b>137'746</b>	<b>83'245</b>

were CHF 7.8 million compared to CHF 6.2 million in 2021. In 2022, 82.2% of total investments went into the development of new products compared to 84.4% in 2021. 3.6% of investments were made into production capacity expansion in 2022 (2021: 0.5%).

### Solid financial position

u-blox's balance sheet remains solid with an equity ratio of 61.6% as recorded on 31 December 2022. Cash and cash equivalents and marketable securities amounted to CHF 137.7 million on 31 December 2022, compared to CHF 83.7 million on 31 December 2021.

Goodwill decreased from CHF 58.2 million in 2021 to CHF 55.6 million or 8.3% of total assets in 2022 due to foreign currency effects.

In 2022, u-blox resumed dividend payments in form of a par value reduction in the amount of CHF 9.0 million.

Based on the Company's strong results in 2022 with a high free cashflow and solid outlook, the Board of Directors will again propose at the Annual General Meeting to pay a dividend in form of a par value reduction in the amount of CHF 2.00 per share for 2023.



# Our strategy

An aerial photograph of a lush, green landscape featuring terraced fields or rice paddies. The terraces are arranged in a series of concentric, wavy lines, creating a complex, organic pattern. The vegetation is a vibrant green, and the terraces are separated by narrow, dark lines of earth or water. In the bottom left corner, there are several palm trees with their characteristic fronds. The overall scene is a testament to human ingenuity in agriculture and land management.



# Chip to cloud the Swiss way

Our growth within the IoT value chain is accelerating primarily because our unrivaled core technology combines positioning and connectivity. Additionally, we partner with our OEM customers to deliver complex technology solutions, which are otherwise difficult for them to achieve. Furthermore, we offer a high-touch customer experience steeped in Swiss tradition. We continue to expand our reach with value-added service capabilities that extend the u-blox solution capability by offering competencies unique in the IoT industry.

## Strategic pathways ahead

For the foreseeable future, we will continue to follow several strategic pathways which have supported our rapid growth:

- Continuing innovation in signal processing
- Selecting the most capable underlying semiconductor technology
- Focusing on the most promising applications
- Capturing high content in the customers' bill of material by providing high solution capability
- Participating in recurring service revenue
- Developing new application areas

## A very promising application: Electric vehicle charging

An excellent example of a promising application within a high growth market is Electric Vehicle (EV) charging. Analysts forecast that approxi-

**"Analysts forecast that approximately 136 million EVs will be on the streets worldwide by 2030 with a 36% CAGR for the EV battery charger market from 2021 to 2030<sup>1</sup>. They also forecast that 58% of the total installed EV charger base will be networked with cellular or Wi-Fi by 2024."**

<sup>1</sup> Source: u-blox based on 3rd party market research

mately 136 million EVs will be on the streets worldwide by 2030, with a 36% CAGR for the EV battery charger market from 2021 to 2030<sup>1</sup>. They also forecast that 58% of the total installed EV charger base will be networked with cellular or Wi-Fi by 2024.



## How are we meeting the needs of the EV charging market?

Our customers within the EV charging market come to us with various technical challenges where u-blox positioning and connectivity solutions are applied. Here are some examples of how we are addressing functionalities in this high growth market:

- Locating EV charging stations
- Delivering charge station status to the cloud
- Monitoring the availability and status of charging stations
- Remote monitoring and predictive maintenance of stations
- Peak load reduction and dynamic load management
- Vehicle to Grid (V2G), bidirectional charging
- Connecting to car and user
- Controlling the charging process
- Optimizing charging time, energy consumption, and costs

## 80% of our revenue is generated with 150 strategic customers

We have become very hands-on with our customers, and they drive our technology roadmap to help us stay ahead of our competition. We gain insights from our key accounts as well as the many small to medium enterprises (SME) that are champions in their industry. Makers are an invaluable source of new ideas as well.

We define high potential customers as those who want innovative solutions. Our demonstration tools make it much easier for them to choose u-blox followed by fast onboarding, which leads to the crucial design-in phase that usually leads to a business win.



### Broadening sales channels

- Tapping more market potential
- Increase share of wallet



### Expanding product offering

- Enhance focus on core, promising applications for winning the market leaders
- More solution granularity



### Enhanced functionalities

- Safe positioning engine
- Correction data
- Secure data handling

## We manage an extensive customer portfolio

Our customers can also get support via our distribution partners, our forum and portal, documentation, and other tools.

## Deep and lasting customer engagement

We approach our customers intending to become a long-term partner aligned with their product lifecycles. Our technical and sales resources and channel partners are committed to this approach.

**“Our high service distribution partners engage our joint customers knowledgeably and amplify the u-blox solution attitude.”**

## Untapped sales potential

Our strategy moving forward includes doubling our customer base, as there is still much untapped sales potential. A key factor will be the expansion of the successful sales structure we have built to support our existing and large customer base through:

- Direct sales
- Demand-creating distributors
- Demand-fulfilling distributors
- High service distributors

## Distribution partners become amplifiers

u-blox channel managers work very closely with our three global and 60 regional distribution partners, whom we provide with deep technical and sales tools so they can respond quickly to market demands. Our high service distribution partners engage our joint customers knowledgeably and amplify the u-blox solution attitude. All distribution partners report their daily dealings with all our customers on our Customer Relationship Management (CRM) platform. As a result, we know what our customers accomplish with our technology.



# At the market edge, shaping the next global dominant design

Within the rapidly expanding IoT industry, u-blox has taken a different path with its chip-to-cloud evolution over the last 25 years. Over 70% of our employees are dedicated to R&D at u-blox. While there are many important aspects of our business at u-blox, our core strength is innovation through our high and enduring investment in R&D.

Our R&D team is in the market working closely with our partners across the IoT eco-system delivering first-of-kind product and service innovation. For example, smaller form factor, lower power consumption, new security attributes, higher accuracy and robustness, or a new range of user tools to help our customers accelerate time to market.

u-blox R&D is at the global market edge anticipating the next major technology development to ensure we maintain our leading market position.

## Deepening our understanding of each industry to deliver solutions

As industries automate and go through their unique digital transformation – from a smart-watch to a fully automated farm tractor – we partner within each industry with market leaders and other technology providers to deepen our understanding of the required solutions.

**“Within the rapidly expanding IoT industry, u-blox has taken a different path with its chip to cloud evolution over the last 25 years.”**

## Customers gain access to our best and brightest R&D minds

Our successful collaboration with global market-shaping leaders has been mutually beneficial as these key customers gain access to our best and brightest R&D minds, and, in turn we to theirs. The results are disruption of old business models, first-of-kind designs, better performance, longer lifespan, and new ways of



positioning, connecting, computing, and data transferring within the IoT industry.

### AWS IoT ExpressLink

u-blox recently collaborated with Amazon Web Services (AWS) to develop two first-of-kind modules pre-provisioned to enable out-of-the-box secure communication with AWS via Wi-Fi and cellular IoT.

**“The decision to work with u-blox was a clear choice for us at AWS, as we knew that their high-quality modules targeting industrial and professional applications would complement our wide range of software and cloud services for IoT” said Shyam Krishnamoorthy, General Manager of Consumer IoT and Connectivity at AWS.”**

Paving the way for rapid design-ins with no complex software to run and maintain on the device side, the modules are ideal for small to medium-sized businesses targeting consumer and industrial markets. Moreover, by simplifying access to cloud services, AWS IoT ExpressLink knocks down one of the key barriers standing in the way of newcomers to the IoT space: complexity.

### GMV\* partnership for market ready end-to-end safe positioning solutions

Functional safety is becoming increasingly indispensable for automated or autonomous vehicles within the automotive and industrial sectors.

GMV, a leader in safe positioning systems, and u-blox have partnered to provide market ready, functional safe positioning solutions.

To achieve a functional safe positioning solution, customers must develop and integrate hardware and software from multiple vendors. GMV's leading algorithms and augmentation service combined with u-blox leading positioning

hardware and software will be integrated into the joint solution. As a result, the offering will minimize effort and accelerate time-to-market.

This unique solution will be marketed by u-blox and complements its existing GNSS receiver portfolio and advanced GNSS augmentation service PointPerfect.

\* Founded in 1984, GMV is a private capital technology group with 3,000 employees worldwide, offices in 12 countries, and a global leader in functional safe positioning systems.

### u-blox and Nvidia partner for autonomous driving

Nvidia is known for its high-end Graphic Processing Units (GPU) and as an autonomous driving technology partner to Toyota and other car OEMs. Additionally, Nvidia has partnered with u-blox to integrate the ZED-F9K into the NVIDIA DRIVE Hyperion™ modular development platform and reference architecture for accelerating the design of autonomous vehicles.

### Li Auto's new Li L9SS utilizes u-blox ZED-F9K high-precision GNSS

Launched in June 2022, the Li L9 comes equipped with a full-stack, self-developed Li AD MAX smart driving system with Navigation on ADAS (Advanced driver assistance systems) (NOA) functionality.

Li Auto has integrated the u-blox ZED-F9K high-precision GNSS module to enhance assisted driving. The driving assistance system recognizes traffic lights, pileups, and road shoulders. In addition, it features adaptive cruise control, lane keeping, automatic merging, intelligent speed adjustment, automatic ramp entering and leaving, and visual parking functions that require an accurate positioning system.







# Competitiveness





# We've got our solution attitude on our own silicon

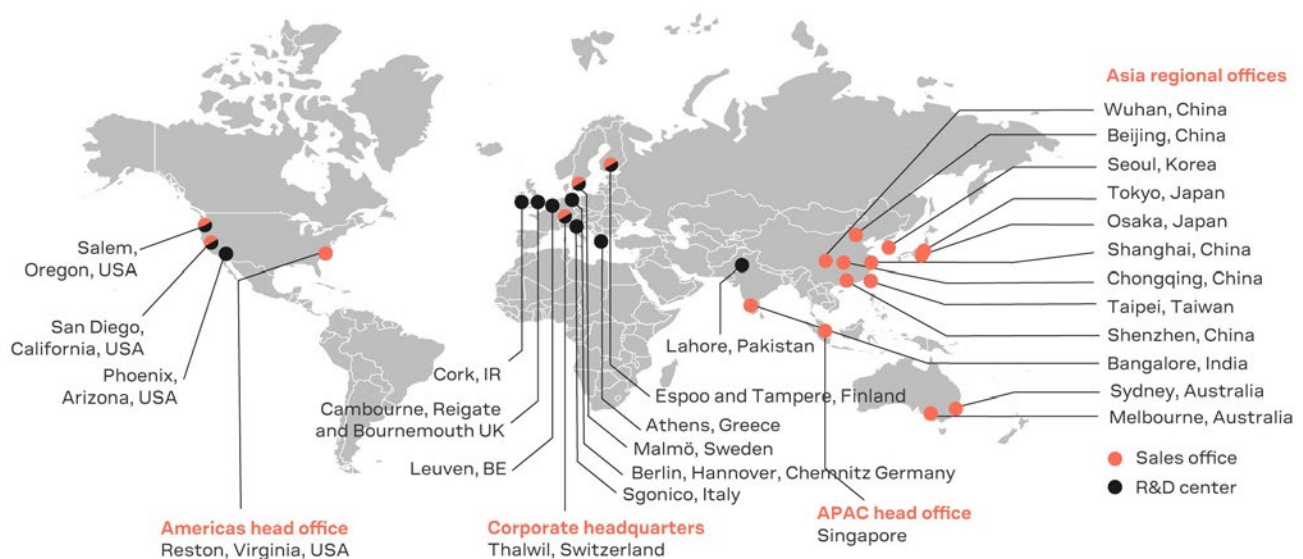
After years of strategic acquisitions, R&D, and people investment, we have the team, attitude, culture, processes, reputation, and unique, unrivaled intellectual property, including our own silicon, to continue to grow and benefit as automation and mobility drive expansion worldwide.

The combination of our three core technologies offered in the form of chips and modules is unique in the market. Our competitors in the integrated circuits space focus mainly on the consumer, handset, and PC markets. Our competitors in the module space have no access to core IP and implement only the reference design of the chip suppliers.

**“On the anniversary of 25 years since our founding, we’ve got our solution attitude on our own silicon by years of strategic investment and the successful market adoption of our new service business alongside our established hardware portfolio.”**

## Market consolidation has created an opportunity

The recent market consolidation in the module space has reduced our customers’ options in terms of sourcing solutions and innovation, creating an even greater market opportunity for u-blox. Within our competitive environment no other company is offering the same solution portfolio.



### We are leading the way

The ever-evolving standards in wireless communication increase demand for u-blox products for infrastructure and devices, which are often first-of-kind and market-ready to deliver a much-needed solution and capture market share.

New standards in communication infrastructure create new demand for our products.

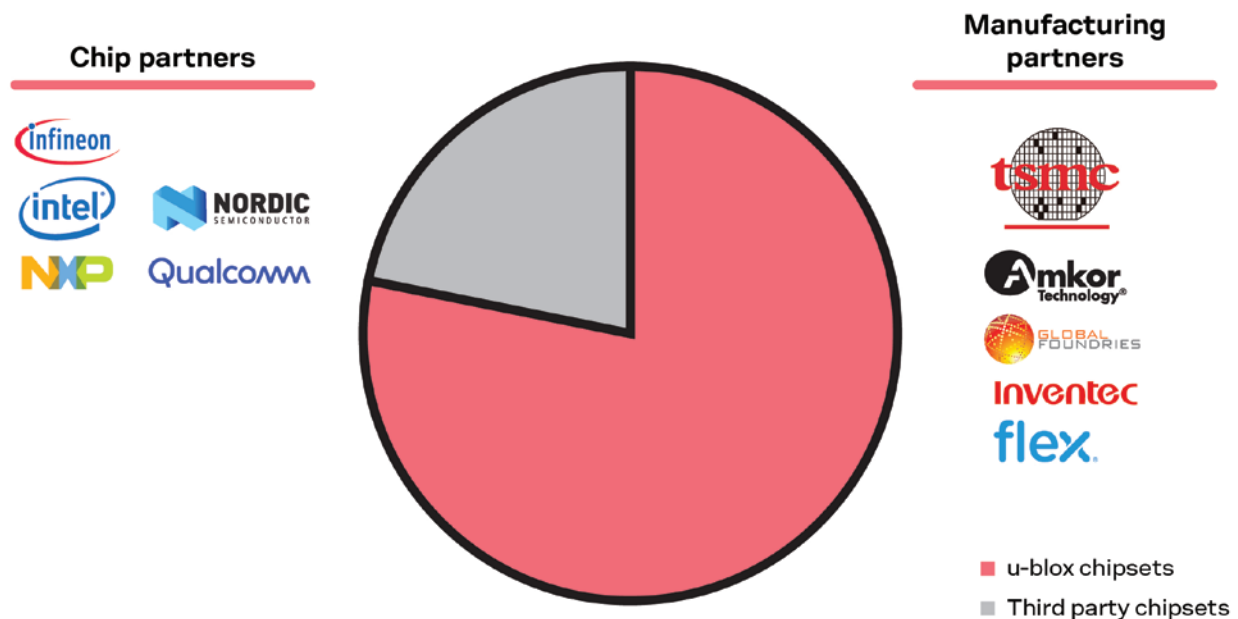
### Innovation is our life blood

Since our founding as an ETH spin-off a quarter century ago, we have maintained our innovative spirit. Our still-present founders are the mentors of our innovative solution attitude across our 33 locations encompassing 18 R&D facilities and 20 sales and marketing operations spread over five continents.

We are never far away from our customers, their markets, and what is relevant to their business cases. As a result, we engage with our customers and regional distributors throughout the decision-making journey for the best ideas and can be highly responsive in proximity. Furthermore, we can draw from our diverse, global talent pool helping u-blox stay ahead of the global innovation curve and the competition.

### We innovate faster with less

Within our u-blox product centers there is an abundance of enthusiasm for our purpose as our teams are market focused with a high level of dedication. Combined with our lean and agile process driven culture, this helps us innovate much faster with less. Consequently, three quarters of our gross margin is derived from u-blox proprietary IP on our own silicon, making us highly competitive within the IoT industry.



Three quarters of our gross margin is from products with our proprietary chipsets.



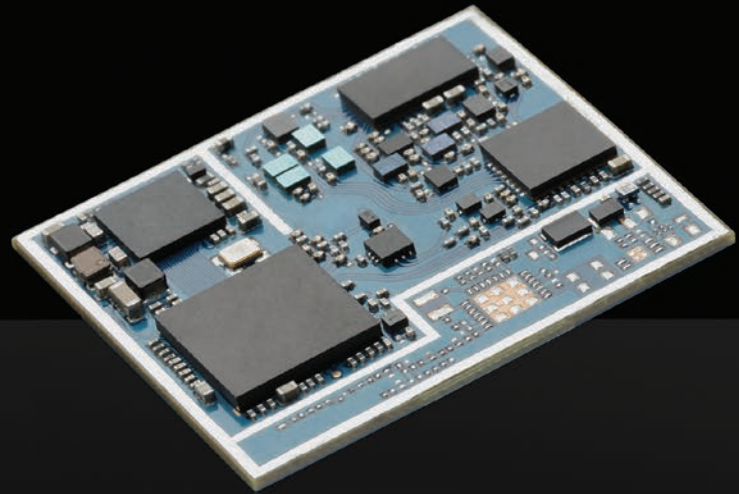
### **We respect the partnership with our customers**

We do not compete with our customers, but rather concentrate our energy on innovative ideas that support them as they create their products for fast growth in markets where our technology portfolio often delivers the undisputed competitive advantage. Thus, our customers choose u-blox based on the value we provide.

### **We represent quality**

Over the many years u-blox has created a unique quality system that assures the delivery of products that are functionally extremely robust and highly reliable. Our aim for zero defects is recognized across the IoT industry. Our products achieve lifetime reliability of close to zero Parts Per Million (PPM) failure rate. We are a renowned supplier to the automotive industry and comply with their very specific requirements for process and product quality.

# Products, services, and solutions



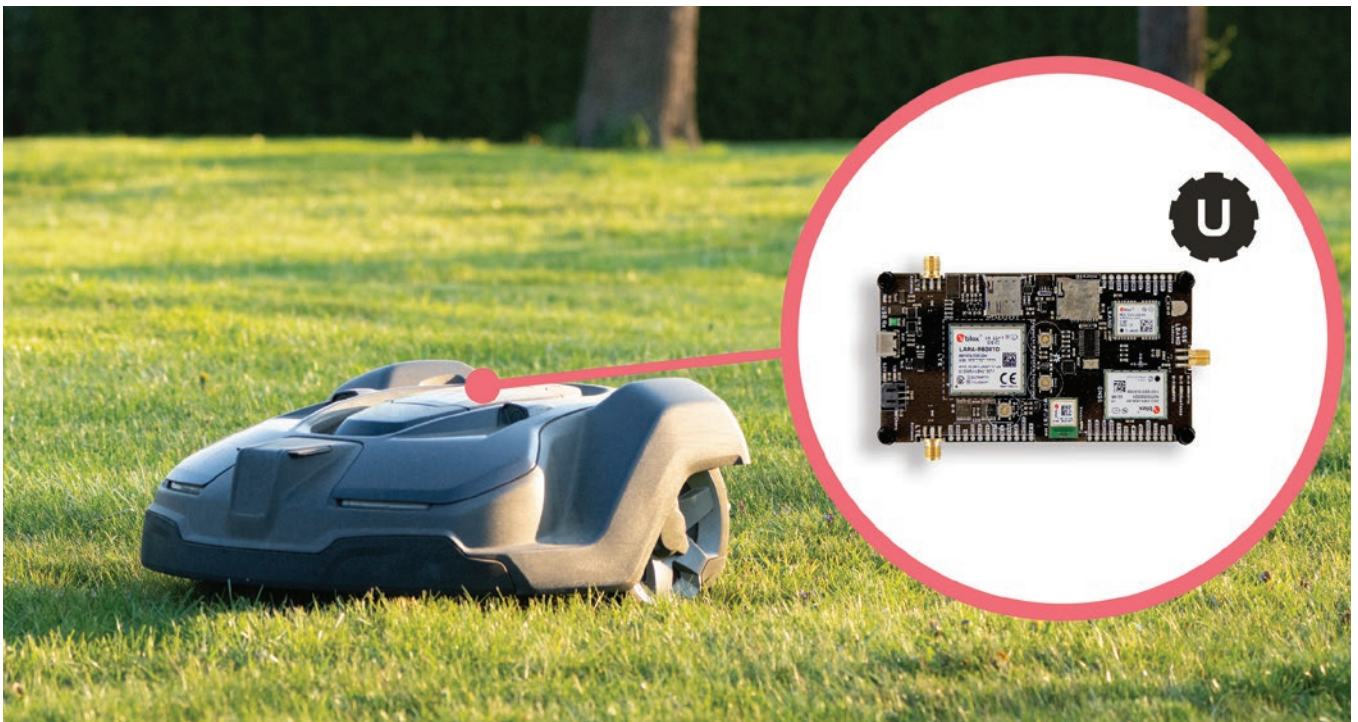
# The world wants market-ready solutions

Our dynamic customers around the world are continuously solving complex challenges requiring both location awareness and wireless communication capabilities through IoT.

Market-ready solutions, which rely heavily on our unique portfolio of services, are increasingly in demand.

## Our new pioneering User Development Explorer Kits

Throughout 2022 we released a range of full-featured Explorer Kits combining our unique blend of positioning and wireless communications expertise and services to support faster time-to-market for new products.



**The following is a small selection highlighting some of the u-blox products, services, and solutions launched in 2022:**



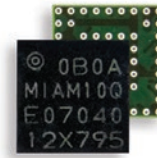
### **LARA-L6 – the world’s smallest LTE Cat 4 module** **Development Explorer Kits**

In May 2022, u-blox launched the world’s smallest LTE Cat 4 module with global coverage and 2G/3G fallback. The LARA-L6 is a perfect fit for demanding size-constrained applications, including video surveillance, dashcams, high-end telematics, gateways, routers, and connected health devices. The LARA-L6 integrates seamlessly with u-blox GNSS receivers, offering superior positioning performance over competing solutions with onboard GNSS receivers.



### **MAYA-W2 – tri-radio Wi-Fi 6, Bluetooth LE 5.2, and Thread module**

Among the first host-based modules to extend the benefits of highly efficient Wi-Fi 6 to industrial applications, the MAYA-W2 offers vastly improved Wi-Fi performance, particularly when handling crowded networks, while supporting Bluetooth LE 5.2 and Thread. In addition, the tri-radio functionality makes it ideal for gateways and bridges in low-power IoT and mesh networks.



### **MIA-M10 – the world’s smallest GPS module**

In June 2022, u-blox launched the world’s smallest GPS module, roughly half the size of competing products. The 4.5 by 4.5-millimeter MIA-M10’s miniature form factor allows developers to design more attractive and comfortable solutions, further driving the adoption of positioning technology in small size consumer and industrial applications. Built on the ultra-low-power u-blox M10 GNSS platform, the MIA-M10 offers the most power-efficient solution for size-constrained battery-powered asset tracking devices. The module targets an expanding market for people, pets, livestock trackers, industrial sensors, and wearables.



### **SaaS – security certificate lifecycle control service ensures futureproof protection**

In February 2022, u-blox launched Certificate lifecycle control Security-as-a-Service that continuously renews device credentials in a fully automated mode. Together with u-blox’s existing zero touch provisioning service, it provides out-of-the-box onboarding to IoT Cloud platforms with total control of the device certificate lifecycle.





### **XPLR – centimeter-level positioning and connectivity Explorer Kits for product designers**

Offering a single platform to develop a variety of IoT use cases, the versatile XPLR-IOT-1 explorer kit reduces the expertise and code development required for hardware, software, and service integration. The all-in-one package integrates all the relevant u-blox technologies and services into a capable prototyping platform with a vast selection of sensors and interfaces and cloud connectivity.



### **NEO-F10T – secure high-precision dual-band GNSS timing module**

Offering nanosecond-level timing accuracy, thereby meeting the stringent timing requirements for 5G communications according to the 3GPP global standard, the NEO-F10T significantly reduces the time error of cellular network synchronization. NEO F10T will help operators maximize the data throughput of their networks and optimize the return on their investment in 5G communications.



### **ubxlib GitHub repository simplifies the development experience**

In June 2022, we released the u-blox ubxlib GitHub repository, a library of software examples for host microcontrollers that make it easy

to control u-blox modules for key use cases. Rather than expecting developers to go through the arduous task of prototyping, testing, and debugging their solutions, we developed ubxlib to make the best use of u-blox module features in their applications. ubxlib speeds up the prototyping of solutions, ranging from wireless sensor networks to indoor and outdoor tracking solutions to industrial or smart building gateways.



### **SARA-R500E – first cellular module with an embedded SIM (eSIM)**

SARA-R500E greatly simplifies logistics for device makers, as the eSIM chip is already integrated inside the module. Customers only need to activate connectivity and choose the data plan that best fits their needs via the Thingstream.io service delivery platform. In addition, eSIMs are more robust than standard plastic SIMs and cannot be stolen or removed, increasing the device's security.



### **XPLR-HPG – centimeter-level positioning and connectivity explorer kits for product designers**

With a vast selection of sensors, interfaces and cloud connectivity, the new u-blox XPLR-HPG-1 and XPLR-HPG-2 explorer kits are for product designers requiring centimeter-level positioning. The kits integrate all the relevant u-blox technologies and services into a versatile prototyping platform.



# Our markets





# Eco system driven by salient megatrends

Despite changing macroeconomic conditions, we have continued to experience solid demand in both our automotive and industrial markets. The megatrends that drive our industry are strong; the continued need for optimization of industrial systems makes the use of the Cloud indispensable. In addition, the automotive industry continues to make automated driving and the electric car their top priorities.

## Augmented reality, data, artificial intelligence, and automation

Augmented reality and the digitization of tasks that can be optimized through data, artificial intelligence, and automation drive IoT application development across our markets.

## Industrial positioning projecting 38% CAGR from 2021–2026<sup>1</sup>

Many former labor-heavy industries and sectors, such as agriculture, construction, and health-care, have been able to transform their business models digitally.

More and more automation and autonomy connected with Cloud services have enabled the construction industry to embrace digitization fully.



### Industrial

#### Typical applications

- Smart transportation
- Asset tracking
- Connected buildings
- Smart City, infrastructure
- Industrial automation
- Timing
- Smart metering / utility
- Smart retail & payment
- Connected healthcare



### Automotive

#### Typical applications

- Telematics
- Infotainment and navigation
- Environment and driver perception enhancement
- Autonomous driving
- Energy management
- Vehicle monitoring
- Automotive convenience
- Safety services
- Vehicle control



### Consumer

#### Typical applications

- Drones
- People and animal tracking
- Car accessories
- Gateways and routers
- Portable computers
- Wearables

## Healthcare

Some patients may no longer need to go to the doctor. Instead, their wristband delivers the data continuously to their doctor, who can make a diagnosis and provide them with care.

Analysts project a 38% CAGR from 2021–2026<sup>1</sup> for the industrial positioning market as devices that were previously stand-alone become connected and autonomous.

<sup>1</sup> Source: ABI, TSR, OMDIA, u-blox

## More than half of autonomous vehicles have a u-blox GNSS solution

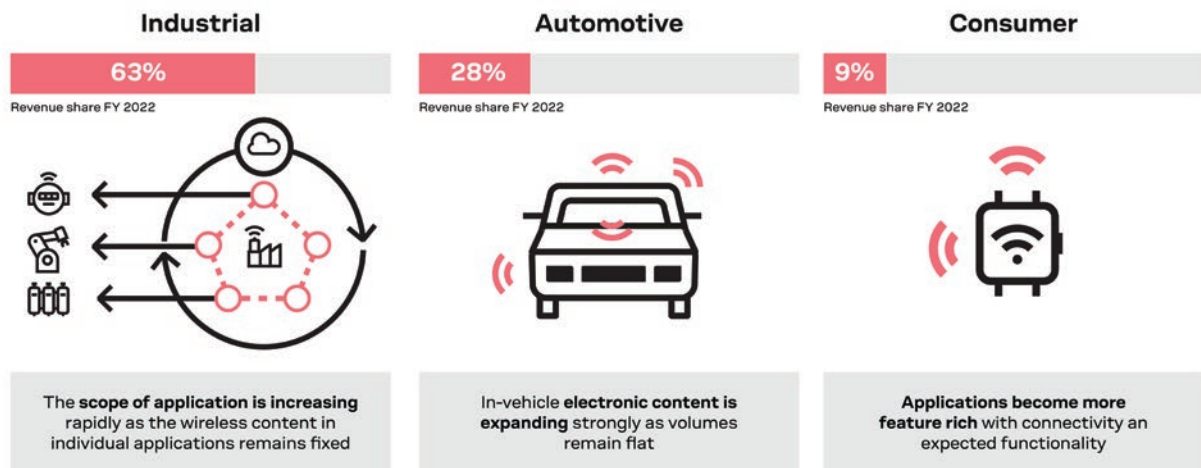
As the market leading GNSS supplier within the automotive industry, one of two autonomous vehicles on the road has a u-blox GNSS solution. We already have solutions with major Tier 1 automobile manufacturers for the first Level 3 vehicles.

## The car of the future will be autonomous, electric, and increasingly shared

With a complete portfolio of chipsets and modules spanning from standard precision to high precision, together with correction and assistance services, u-blox is making the most of the strong market momentum for autonomous driving. Analysts predict a 30% CAGR from 2026 to 2030, with the technology capabilities moving from Level 2 to Level 4/5.

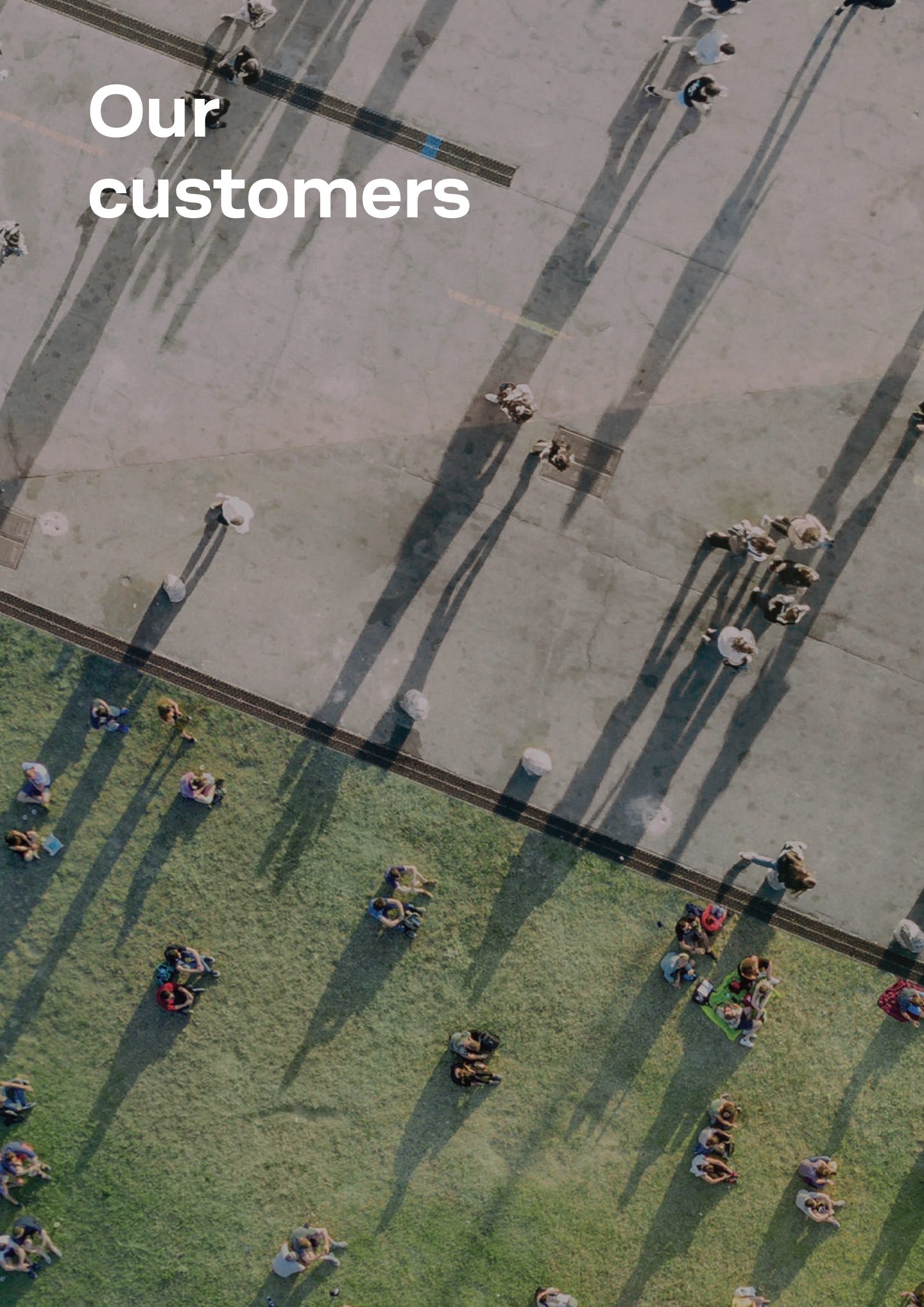
**“The Internet of Things is now The Internet of every Thing as humans intensify their relationship with high performance technology, attracting a much larger global market and driving continued expansion across all markets.”**

## Revenue share by market





# Our customers





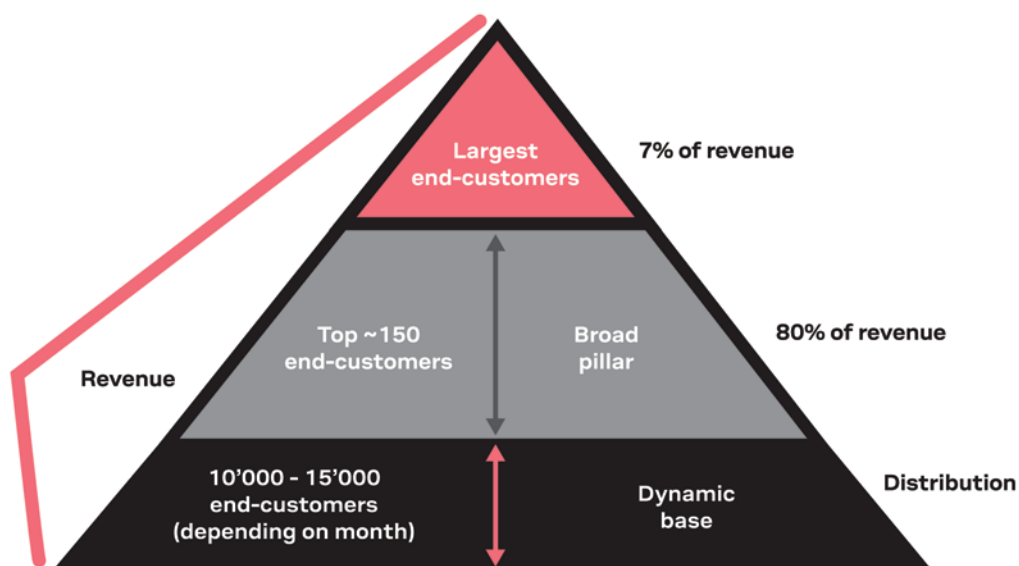
# Together we are shaping the future thanks to IoT

We feel fortunate to be inspired by and work with some of the world's most innovative thinkers and doers.

Our customers, from 66 countries, working across many sectors, are revolutionizing how we move about our planet, looking for ways to protect it and us from the impact of climate change, and making complex tasks simpler. Together we are shaping the future thanks to IoT. On a daily basis we interact intensively with our customers to expand the knowledge they can access and profit from.

## A learning community

We believe a high level of communication and information sharing helps everyone within the u-blox community. By providing multiple transparent and easily accessible communication channels for ideas and discussion, a technical support recommendation made once becomes available for thousands of other customers. Together with our customers, we have established a learning community.



# Virtual fencing

**Nofence enables regenerative farming practices**



Nofence's GNSS-enabled livestock collar, designed with animal wellbeing in mind, relies on the most compact u-blox modules for positioning and for cellular connectivity.

## **No innovation in structural fencing for over 80 years**

Not since barbed wire was invented in 1874, followed by the electric fence in 1936, has there been any innovation in structural fencing. That is, until just over ten years ago, when a group of Norwegian farmers and engineers brought modern technology and traditional farming together to change this. They created Nofence, the world's first virtual fence system for simultaneously grazing animals, improving agriculture, and protecting and regenerating the environment.

## **The world's first virtual fence system for agriculture and the environment**

Humans have tried to control and limit the range of motion of livestock by constructing fence structures since animals were domesticated. Fences generally cost a lot to build and can be even more costly over time to maintain.

## **Vast areas around the world are underutilized**

The building and maintenance cost factors for structural fencing have resulted in vast areas with agricultural potential left underutilized around the world. The Nofence team began by asking: "What if we could utilize this natural resource for future food production and let nature decide where our animals can graze?"

### **Solving two major problems at once**

With over 1.4 billion cattle, 1 billion goats, and 1 billion sheep on the planet, there is considerable reason to innovate, and Nofence believes its technology can solve two major problems at once. In addition to the problem of inefficiency with fencing structures, there is the problem of unsustainable industrialized farming practices, disrupting ecosystems worldwide.

### **Rotating livestock and crop fields restores biodiversity within two years, supporting UN SDG 15**

**“The Nofence team began by asking: ‘What if we could utilize this natural resource for future food production and let nature decide where our animals can graze?’”**

By rotating livestock and crop fields, fertilizers and pesticides are significantly reduced. As animals graze on the soil, the underlying ecosystem is nurtured, and the biodiversity and ph-balance of the soil are restored. Nofence technology aligns with the United Nations Sustainable Development Goal (UN SDG) Goal 15, Life on Land, which focuses on managing forests sustainably, restoring degraded lands, combating desertification, reducing degraded natural habitats, and ending biodiversity loss.

### **One million animals on pasture with Nofence by 2026**

With a significant installed base in Norway, over 250 million hours of operational data, and a go-to-market strategy well underway in Ireland, Spain, the UK, and the USA – Nofence plans on helping its customers manage one million animals on pasture by 2026.



# Sustainability





# Shaping IoT with responsible business practices

As a signatory of the United Nations Global Compact (UNGC) since 2012, we are committed to supporting the 17 United Nations Sustainable Development Goals (UN SDGs) across our global business.

**“One of the central pillars of the u-blox Code of Conduct is the policy we set out in 2002 on the non-integration of our products into weapons and weapon systems.”**

The u-blox sustainability strategy is based on five pillars: Business Ethics, Employees, Environmental Responsibility, Supply Chain Responsibility, and Community. We report on the policies and activities in each of these pillars and set out our goals and progress related to the Environment, Social, and Governance (ESG) issues within each pillar every year in our annual sustainability report.



### No weapons or weapon systems

One of the central pillars of the u-blox Code of Conduct is the policy we set out in 2002 on the non-integration of our products into weapons and weapon systems.

We do not sell products when the intended use is for integration into weapons or weapon systems, including:

- Guns, cannons, or weapon systems, e.g., systems for identifying or localizing targets
- Systems for the guidance of missiles, bombs, or bullets
- Military drones, military unmanned vehicles, or military robots

We also do not sell to trade embargoed countries, including: Iran, North Korea, Russia, the territories occupied by Russia in Ukraine, Belarus, Sudan, Cuba and Syria.

### R&D for a more sustainable world

We are committed to ensuring our products are produced responsibly. Long before our products are shipped to market, the u-blox R&D team has invested significant IP and sustainability considerations into the value chain with product design, component longevity, process optimization, testing, and assembly. Miniaturization is a major lever for reducing the environmental footprint. Since our foundation, we have continuously reduced our products' size and material content. With our latest chip design in 2022, we are saving 66% on energy and materials.

### Our technology has the potential to address some of the most acute human, economic and environmental needs

The IoT is emerging as a powerful enabler in many application domains, such as water and energy management, environmental monitoring, health, transportation, and industrial processes. It can also directly contribute to achieving the United Nations Sustainable Development Goals (SDGs) targets.

**“u-blox fleet management technology helps to reduce CO2 emissions with a gain by a factor of  $10^6$ .”**

u-blox fleet management systems significantly reduce CO2 footprints through optimized routing, traffic prediction, the reduction of speeding or harsh braking, and preventative maintenance.

Whereas the manufacturing process of a u-blox 8 chip produces +50 grams of CO2, effective fleet management of a 40-ton truck supported by u-blox technology reduces CO2 emissions by 50 tons each year, a gain factor of  $10^6$ .

To learn more about our sustainability strategy, goals, implementation, partners, and achievements, please download the u-blox Sustainability Report 2021. The u-blox Sustainability Report 2022 will be available as of April 2023.



# Risk management

u-blox – a resilient global partner





### RISKS RISK MITIGATION

#### Markets and customers

Macroeconomic uncertainties, slow demand, and disruption by natural disasters could impact our business and customer demand. This may lead to lower volumes and decreased profitability.

- No single customer accounts for a double-digit percentage of u-blox's revenue
- Continual expansion of the customer base on all continents
- Continuous monitoring and assessment of market developments and needs
- Focus on most promising market sectors

#### Competition

Our markets are highly competitive in terms of pricing, product features, and service quality. In many sectors we face price pressures that could negatively impact our results.

- Review and replan R&D activities every 6 months
- Foster a high level of innovation
- Maintain high technical support capabilities globally
- Product range well-structured to provide customers with solutions tailored to their needs
- Provide an attractive journey for our customers

#### Intellectual property

Competitors or other parties in our industry may seek to yield benefits from our technical innovations by duplicating our products.

- Maintain a high level of trade secrecy
- Protect our current business and IP from being copied or used by others by appropriate use of patents, copyrights, and trade secrets on a global basis
- Accelerate the innovation rate
- Manage third party licenses
- Defend IP infringements

#### Product quality

Poor product quality may result in reputational and brand damage, resulting in lower volumes and financial claims.

- Continual expansion of the quality management system and laboratory capabilities
- Thorough testing and qualification at our own laboratory facilities
- Maintain high technical support level globally
- Excellent long-term manufacturing partners
- Guide and manage the quality systems of our suppliers

#### Cybersecurity

Breaches in cybersecurity can become cost-intensive to remedy and bring potential financial claims, reputational damage, and loss of customer trust.

- Information Security Management System ISO 15408 Common Criteria and ISO27001 certification
- Continuous hardening of core IT and improved site security
- Red Team in-house testing security center of excellence
- Security experts and testing within u-blox product centers
- Continuous product security innovation
- Security collaboration with critical supplier partners
- ISO 15408 Common Criteria and other product security certifications

#### Innovation

u-blox competitive position, sales, and earnings depend significantly on the development of new products and technologies. Failure to achieve our aggressive R&D and innovation goals could negatively impact our ability to grow.

- Continual stream of new products launched yearly with targeted features to several markets
- Expensed 17% of revenues in R&D in 2022
- Early engagement of lead customers
- Cooperate with market shaping customers
- Intensive market communication

### RISKS RISK MITIGATION

#### Personnel

Skilled and dedicated employees are essential for the success of our growth-oriented corporate strategy. The loss of these individuals could disrupt the company's operations.

- Globally positioning the company as an attractive employer
- Train and increase knowledge and talent
- Regular employee satisfaction survey
- Maintain attractive employment conditions and compensation packages plus a stock option plan
- Offer career path opportunities group wide

#### Suppliers

u-blox outsources its capital-intensive production to leading production suppliers around the world. Rising raw material prices, capacity constraints, or business interruption could lead to a supply shortage with negative consequences for our business.

- Lean supply base with few key suppliers
- Multiple sourcing of commodities
- Long-term relationships with suppliers and close interaction to plan and manage capacity
- Inventory buffers to respond to unplanned demand fluctuations
- Close contact with customers to predict demands

#### Compliance

Non-compliant or unethical behavior could lead to reputational damage, fines, and liability claims.

- Active fostering of high ethical standards and membership in the UN Global Compact
- u-blox Code of Conduct
- Anti-bribery policy
- Speak-up culture, formal compliance process, and sanctions
- Exclusion of business for weapon systems
- Supplier and distributor auditing programs
- Sustainable supplier program containing regular risk assessments and inspections of production suppliers' operations

#### Currency fluctuations

The majority of u-blox's revenue material costs and R&D expenses are in US dollar currency.

- Foster natural hedging by matching revenue currency amounts with expense currency amounts

#### Credit

Credit risks arising from financial institutions and customers could have a negative impact on u-blox's financial performance.

- Individual risk assessment of customers and definition of appropriate credit lines
- Insurance for all customer credit lines
- Frequent and thorough follow-up on late payments

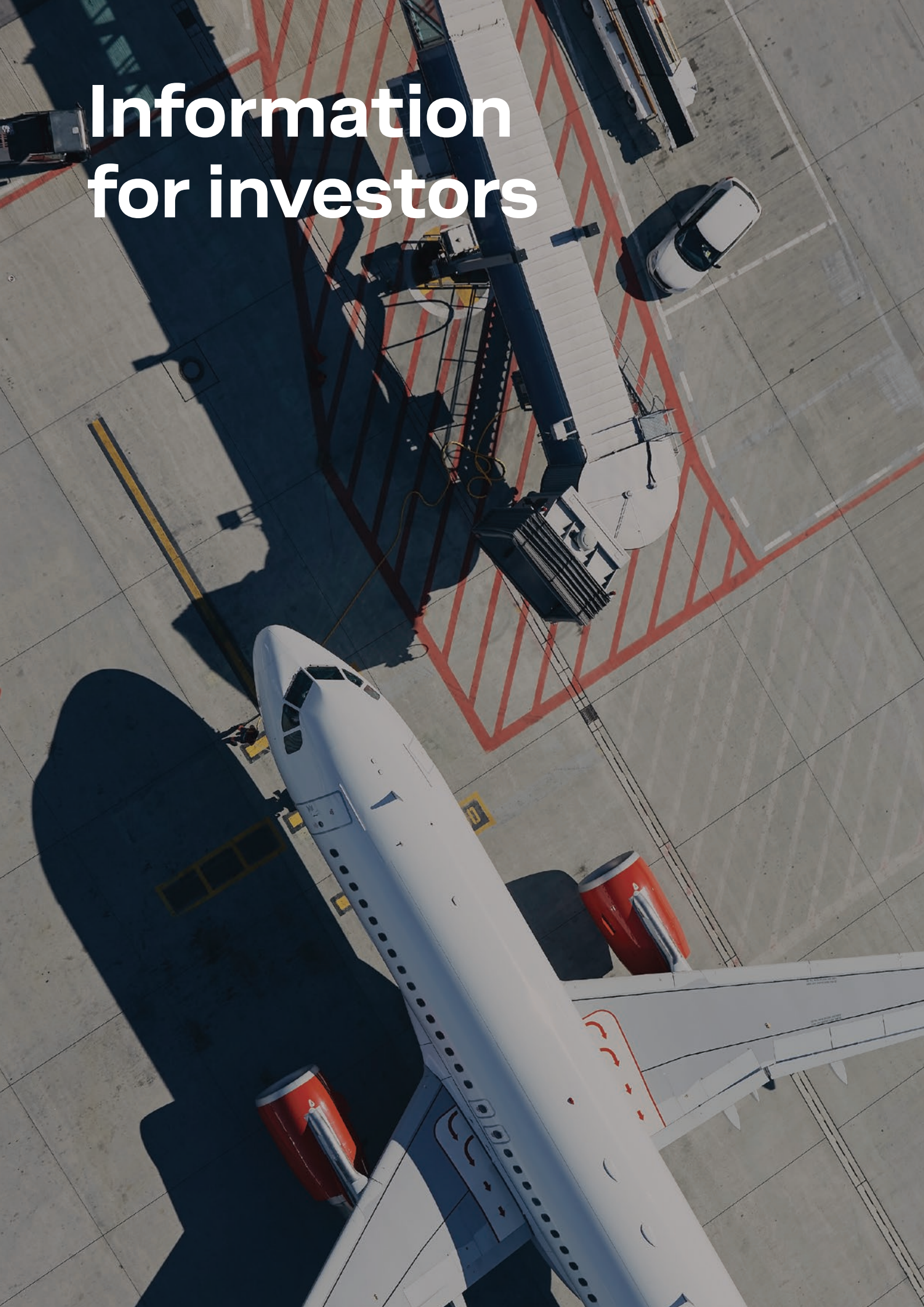
#### Liquidity

Failure in liquidity management may have a negative effect on u-blox's financial performance.

- Monitor our liquidity continually
- Cash flow program to optimize liquidity and cash flow management
- Efficient use of available cash through cash pooling
- Manage OPEX tightly to achieve positive free cash flow



# Information for investors



## Information for investors

Share information: (on December 31, 2022)

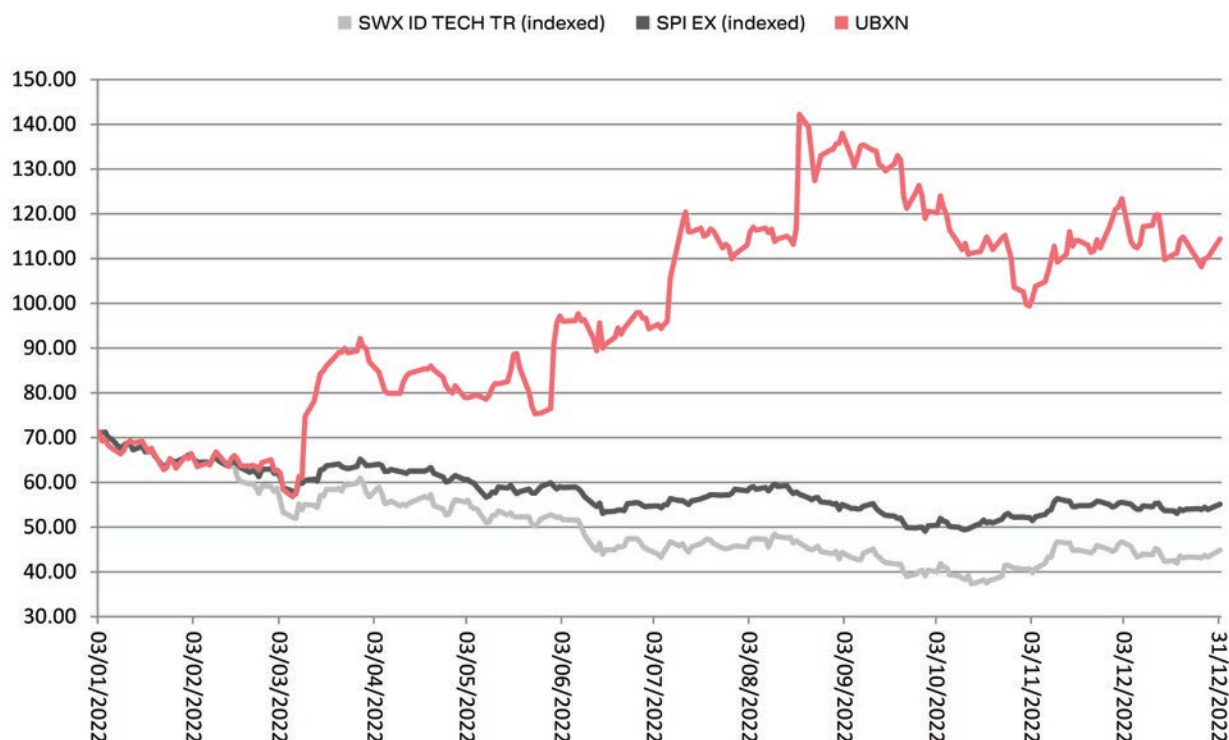
Stock Exchange: SIX Swiss Exchange  
 Swiss Security Number /  
 ISIN 3336167 / CH0033361673  
 Ticker: UBXN  
 Nominal value: CHF 13.50  
 Shares issued: 7'173'448  
 Reuters: UBXN S  
 Bloomberg: UBXN SW

# 791

Market capitalization on  
 December 31, 2022 in Mio CHF

Share price (in CHF)	2022	2021	2020
Highest	142.20	78.15	97.05
Lowest	56.80	56.50	45.12
Closing on December 31	110.20	70.45	58.85
Market capitalization on December 31 (in CHF million)	791	501	419
Key Figures	2022	2021	2020
Registered shares with a nominal value of CHF 13.50 (2021: CHF 14.80, 2020: CHF 14.80)	7'173'448	7'114'893	7'114'839
Nominal share capital (in CHF 1'000)	96'842	105'300	105'300
Basic earnings per share (in CHF)	14.60	2.21	-9.32

### u-blox share price (CHF per share):



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