

History

Ever since three bright ETH doctorate students and their professor founded u-blox in 1997, two things have driven everything we do: a desire to innovate and a constant focus on giving our customers a real competitive edge.



Our Values

**Innovative.
Reliable.
Restless.**

Mission

With our innovative products and services, we empower customers to locate their devices and connect them from silicon to cloud.



Vision

Our technologies enable our customers' businesses to connect wirelessly. As we develop next-generation silicon and services, we put state-of-the-art, secure, and durable products into their hands. Adhering to the Swiss tradition of technological innovation, we strive to find ways to boost our customers' businesses, helping to build a sustainable future.

Product centers



Together for a sustainable world

Considering our sustainability strategy, we focus on business ethics, environmental and supply chain responsibility, diversity, inclusiveness, and community charity work. The engagement of our people has spawned many community initiatives. Our corporate uGive program encourages employees to volunteer in charitable organizations.

u-blox
25
YEARS

Services



thingstream

Our key markets



33
Locations over
four continents

18
R&D centers

60+
Nationalities

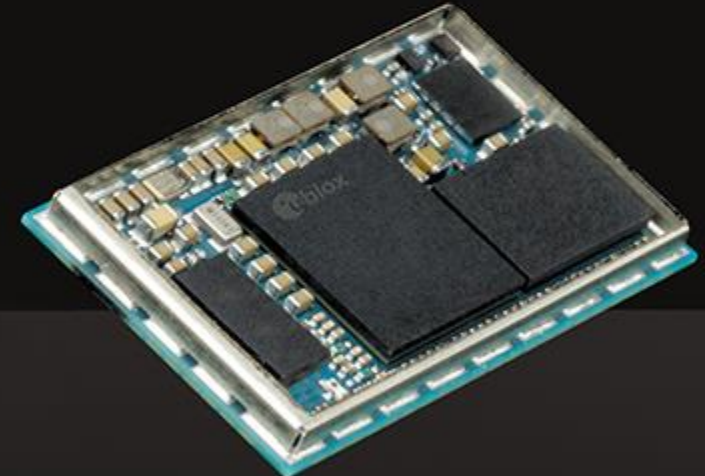
1300
Employees

Quality

Whether it's in our product design, our employees' skills, our relationships with our customers, or our commitments to sustainability, quality is our byword. We strive for excellence in all we do.

Capital Markets Day 2022

22 November, 2022 | www.u-blox.com | SIX: UBXN



This presentation contains certain forward-looking statements. Such forward-looking statements reflect the current views of management and are subject to known and unknown risks, uncertainties, assumptions, and other factors that may cause actual results, performance, or achievements of the Group to differ materially from those expressed or implied herein.

Should such risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in this presentation.

u-blox is providing the information in this presentation as of this date and does not undertake any obligation to update any forward-looking statements contained in it as a result of new information, future events, or otherwise.

Agenda



14:00	Welcome	Thomas Seiler
14:05	u-blox at a glance: our high growth journey	Thomas Seiler
14:15	Our innovative solutions and services	Markus Schaefer, Knut Bentzen*, Oscar Hovde*
14:45	Why customers choose u-blox	Thomas Seiler, Michael Hurnaus*
15:15	Recent financial highlights	Roland Jud
15:25	Q&A	
15:45	Break	
16:00	Go-to-market strategy	Markus Schaefer, Hermann Reiter*
16:30	R&D: staying ahead of market needs	Thomas Seiler
16:45	Taking advantage of strong market momentum	Stephan Zizala
17:00	ESG: contributing to a sustainable world	Thomas Seiler
17:10	FY 2022 guidance & longer-term ambitions	Thomas Seiler
17:20	Q&A	

*Guest speaker

Representatives

Our executive team presenters today



Thomas Seiler

Chief Executive Officer

Thomas Seiler has served as a Member of the BoD since 2007, and as CEO since 2002. He holds a degree in mechanical engineering from the Swiss Federal Institute of Technology Zurich (ETH) and an MBA from INSEAD. He has served as CEO of both Melcher Holding AG (1991-1998) and Kistler Holding AG (1999-2001).



Andreas Thiel

**Head of Product Centers,
Co-founder u-blox AG**

Andreas Thiel has been Head of Product Centers since 2019. He also served as Executive Vice President R&D Hardware (1997-2012) and Executive Director Cellular Product Development (2012-2019). He holds a degree in electrical engineering from Aachen University (RWTH) in Germany. In 1997, he co-founded u-blox AG.



Roland Jud

Chief Financial Officer

Roland Jud was appointed CFO of both u-blox Holding AG and u-blox AG in 2011. He holds a degree in economics from the University of St. Gallen (HSG), is a CPA and a Certified IFRS/IAS accountant. Previously, he served as Deputy CFO at Gurit-Heberlein Holding AG (1999-2008) and CFO at Nexgen AG (2010-2011). He is also a Member of the Advisory Board of c-crowd AG, Zürich.



Markus Schaefer

**Executive Director
Global Marketing & Sales**

Markus Schaefer is a Member of the Executive Committee for Global Marketing and Sales. He holds an M.S. in Electrical Engineering from RWTH Aachen, Germany and an MBA from Tiffin University, USA. Previously, he served as Senior Director of Global Sales and Marketing at NXP for RF and Power Management (2009-2014) and was Head of Sales EMEA and India at MACOM Technologies (2014-2019).



Stephan Zizala

**Incoming
Chief Executive Officer**

Effective 1 January 2023, Stephan Zizala will take over the CEO responsibilities from Thomas Seiler. Mr. Zizala joined u-blox from Infineon Technologies AG. He brings more than 20 years of management and engineering experience, focused on microcontroller and power semiconductors. He holds a doctorate in electrical engineering and IT from the Technical University in Munich.

Guest speakers

Partners and Customers



Knut Bentzen

**Nofence
CEO**

By now somewhat of a tech veteran, Knut has successfully helped scale-ups in the Norwegian Video Valley cluster, done his own start-up, and held leading roles in global SaaS and hardware companies.



Oscar Hovde

**Nofence
Founder & CTO**

Founder and CTO of Nofence, Oscar is a true innovator, holding the patent for the world's first solution for virtual fencing of livestock - and a passion for helping farmers have animals on pasture.



Michael Hurnaus

**Tractive
Co-Founder & Chief
Executive Officer**

Before co-founding Tractive, Michael studied Media-Technogly and Media-Design and spent several years in the US working on hardware and software for Microsoft and Amazon.



Hermann Reiter

**Digi-Key
Managing Director of
Digi-Electronics in
Munich Germany**

Hermann joined Digi-Key Electronics in 2012 with close to 30 years of experience in the distribution of electronic components. Prior to that, he worked for Spoerle Dreieich (today Arrow Electronics) as well as Future Electronics. Mr. Reiter holds a degree in business and finance with a focus on logistics.

Stephan Zizala

CEO effective 1 January 2023



My initial focus

- Strategy execution and evolution
- Ensuring resilience in a VUCA environment
- Developing the organization for future growth

Capital market communication

- Taking over from Thomas Seiler
- Looking forward to a regular and open dialogue, in-depth discussions, and your feedback!



**u-blox at a
glance: our high
growth journey.**

Thomas Seiler

u-blox at a glance



- Leading provider of positioning and connectivity technologies for industrial, automotive and consumer markets.
- Founded 1997 as a spin-off from ETH Swiss Institute of Technology.

Ticker: UBXN (SIX Swiss Exchange)



Financial Overview ⁽¹⁾

Assets: CHF 566m
Liabilities: CHF 208m
Revenues 1H 2022: CHF 294m

(1) As of 30 June 2022



Shareholder Information ⁽²⁾

Share Price: CHF 114.00
Shares Outstanding: 7.2m
Market Capitalization: CHF ~817m

(2) As of 17 November 2022



Structure

Employees: ~1300
Locations: 33
ETH spin-off, listed on SIX
Exchange in 2007



Market presence

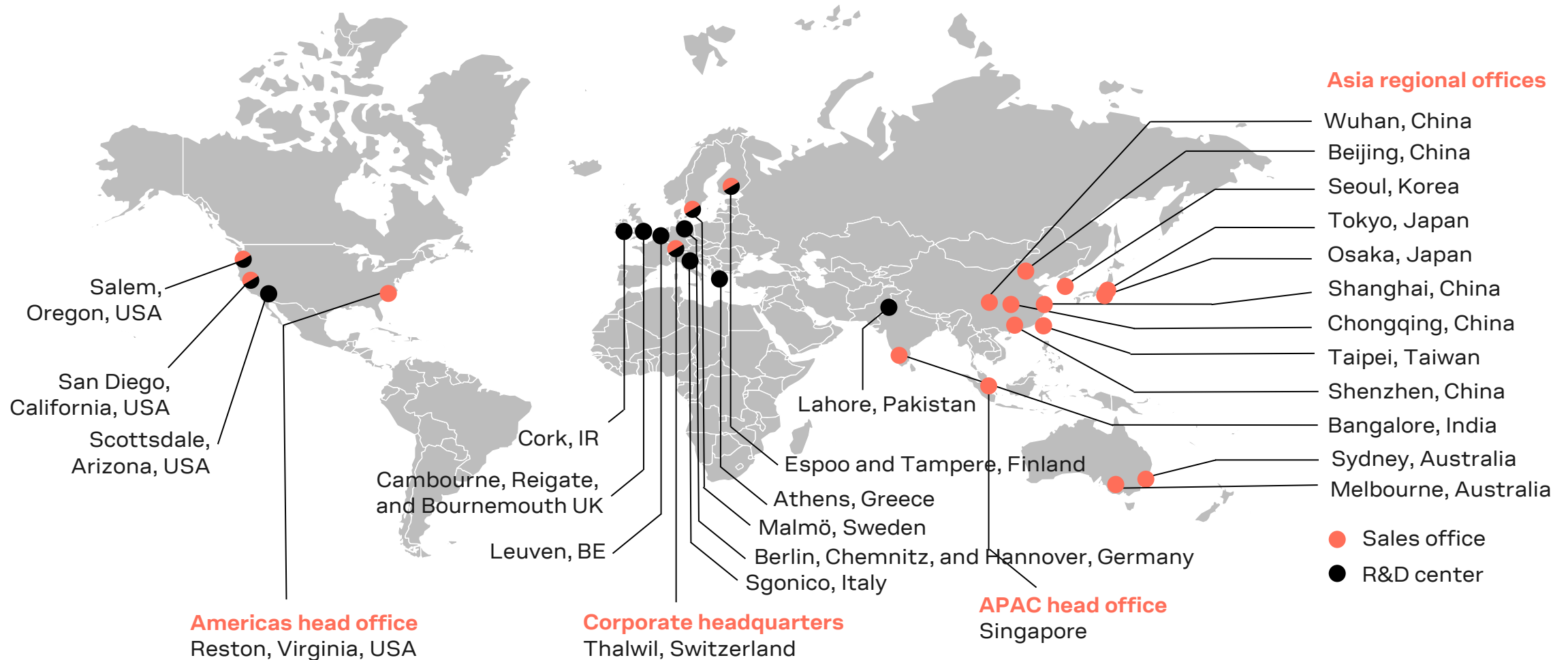
AMEC, EMEA, APAC
Industrial, Automotive, Consumer
14'500 customers



HQ based in Switzerland

Global outreach to customers

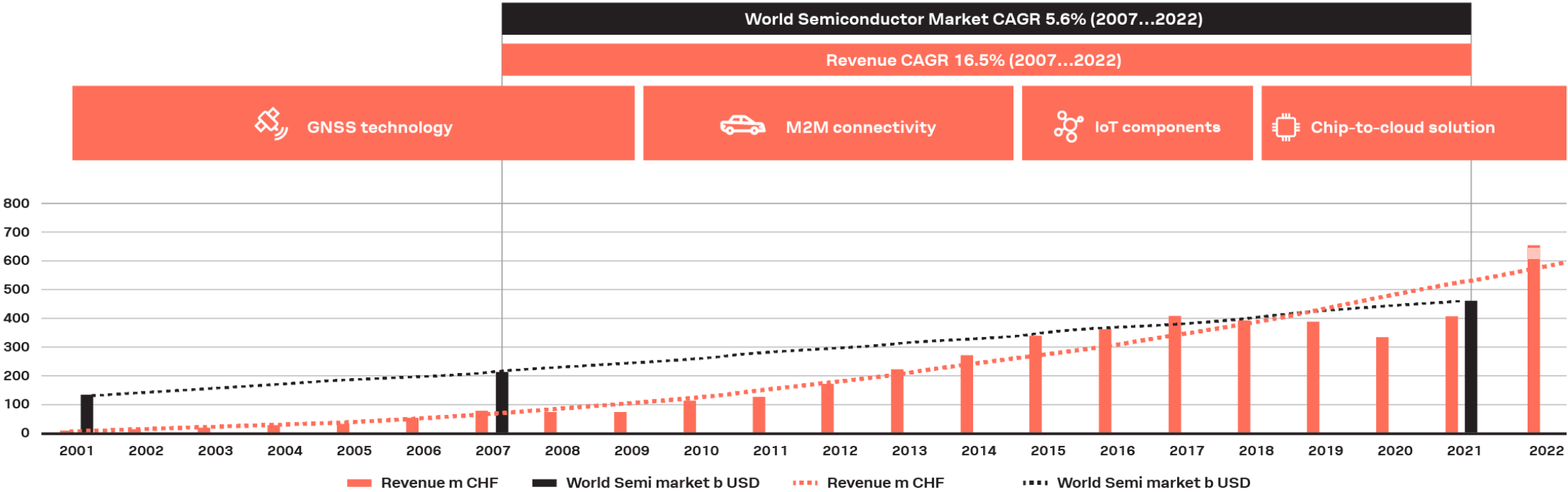
33 locations, near the talent pools, and close to customers



Strong growth track - exceeding general market trend



Strong innovation and adaption to semiconductor market trends



Source: u-blox, World Semiconductor Trade Statistics

Guidance 2022 range indicated by light red bar

Global megatrends expand our markets



Billions of devices become smart and connected to the cloud



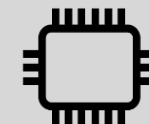
Climate change
and resource
scarcity



Demographic and
social change



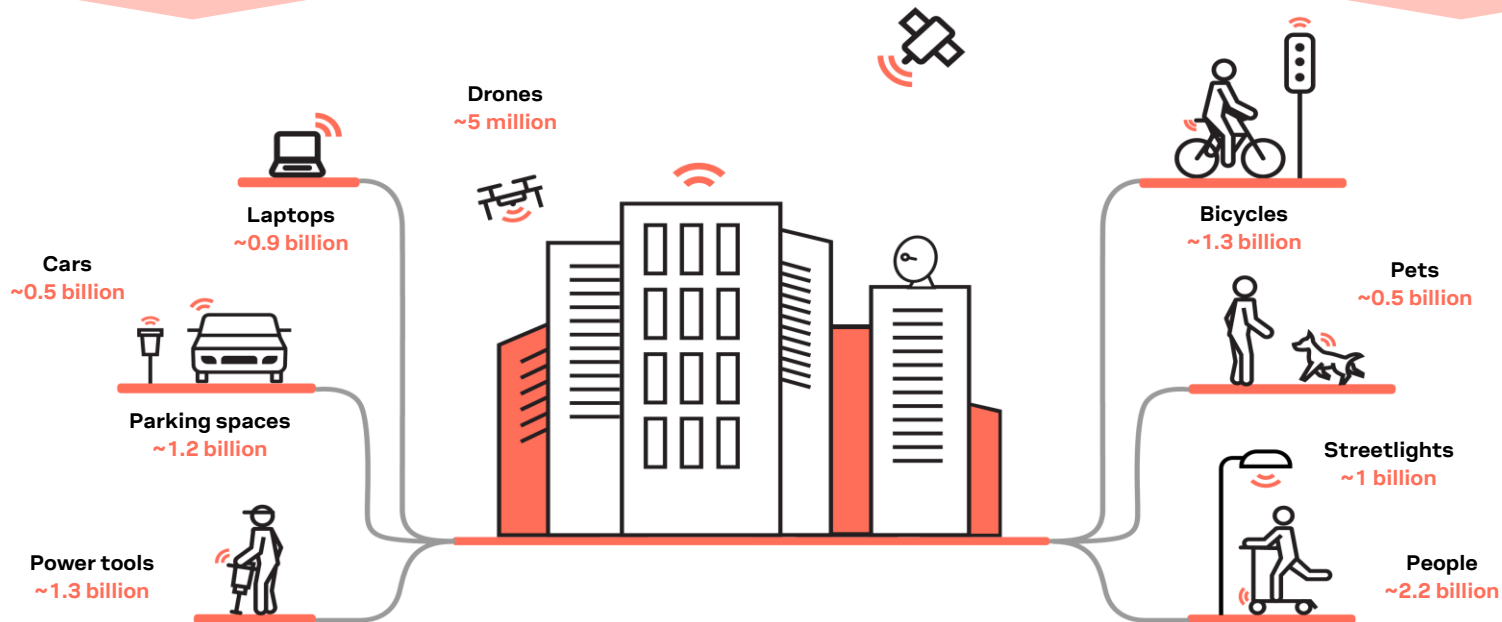
Urbanization



Digital
transformation

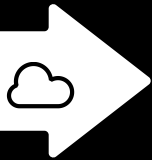
Many devices become smart and
connected to the cloud

Increase of electronics content in cars
for the automated car



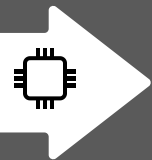
Why u-blox is core

Wireless connectivity is fundamental for IoT devices



Demand for wireless

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 and most of our customers have little knowledge



Customers seek to minimize implementation risk

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



u-blox delivers

Providing superior wireless connectivity solutions is our core function in the industry

Our evolution

Technology leadership built over decades



2021 — Safe positioning solution

2018 — Chip-to-Cloud solution capabilities

2014 — Transceiver chipset

2008 — Augmentation services

2007 — Single die chipsets

2002 — Radios and signal processing

1997 — Module technology

u-blox
Intellectual
property

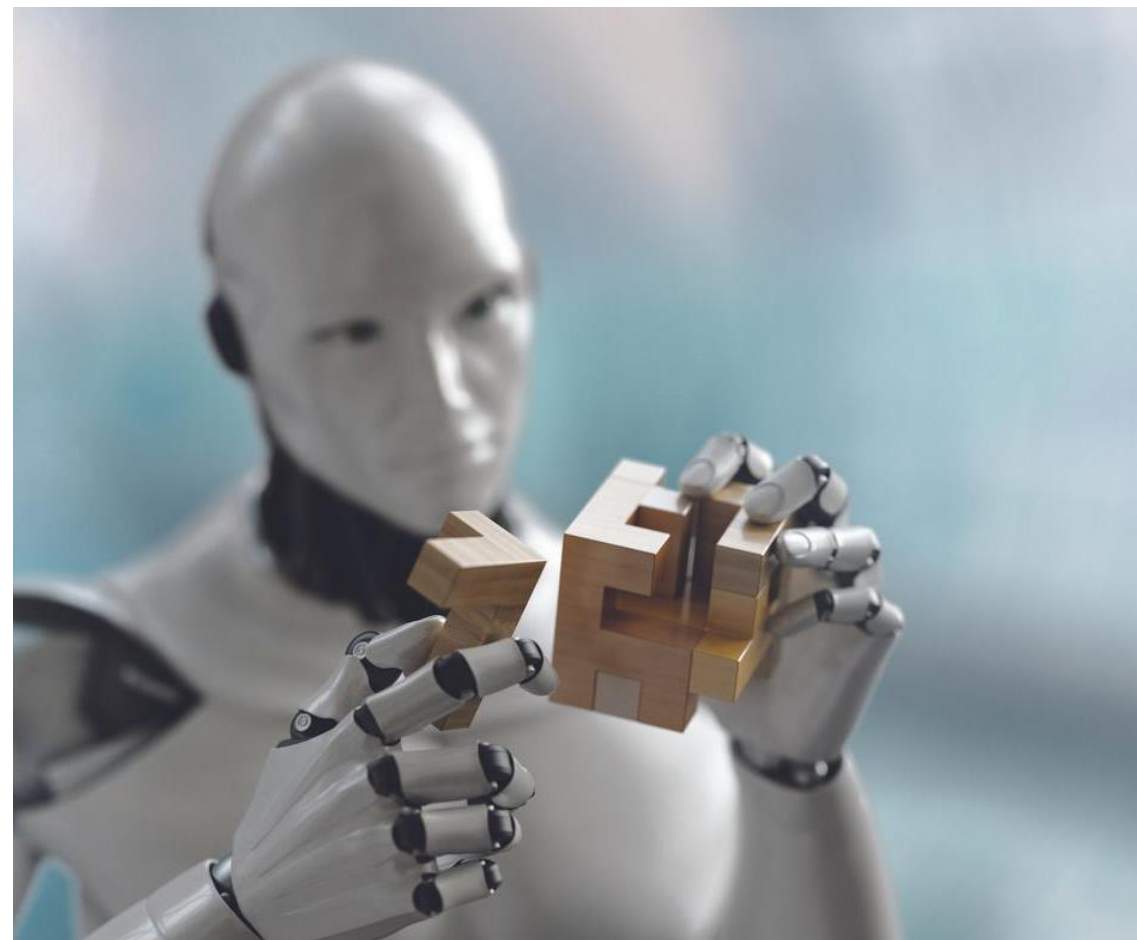
- Radios
- Signal processing
- Cloud services

Our vision for the future

Our strategic initiatives



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



Favorable macro-economic impact

Our place in the big picture



- **Continued solid demand in automotive and industrial markets**
- **No impact from latest US sanctions**
 - No chip manufacturing in China
 - No supercomputing products
 - Industry has adapted to sanctions
- **Customers more sensitive to solid long-term supplier base than lowest cost**
- **Inflation a new accepted fact**



In summary – who we are

Chip-to-cloud solution provider



- **From core components to chip-to-cloud solution capability - a growth journey since 1997**
- **Unique provider of connectivity solutions for the industry**
 - Chipsets build our innovation leadership foundation
 - Modules deliver access to 14'500+ customers
- **Strong solution capabilities based on our broad product base**
- **Long-term growth drivers in all application areas**



**Our innovative
solutions and
services.**

Markus Schaefer

u-blox's unrivaled connectivity technology offer

Making devices connected – from chip to cloud



Position

Precise and accurate



Connect

Solid and robust



Compute

Effortless at edge



Transfer

Simple and efficient



All things are safe and secure

Solutions are easy to implement

Strong growth drivers with long duration

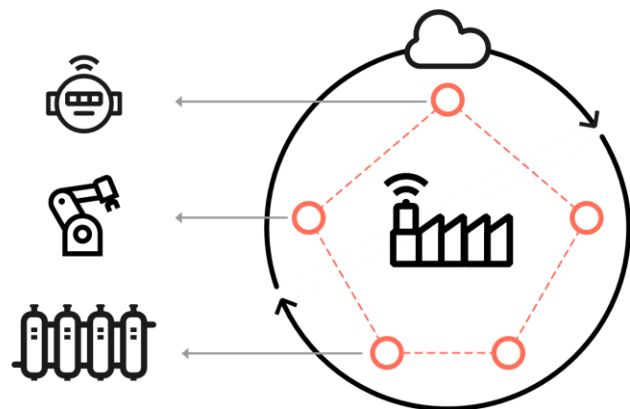
Growth in industrial, automotive, and consumer markets



Industrial

61%

Revenue share H1 2022



Automotive

28%

Revenue share H1 2022



Consumer

10%

Revenue share H1 2022

1% = others



Scope of application is increasing rapidly

as the wireless content in individual applications remains fixed

In-vehicle
electronic content is expanding strongly as volumes remain flat

Applications become more feature-rich with connectivity as an expected functionality

Selecting the promising markets

Where wireless communication and location information is at a premium



Industrial

Typical applications

- Smart transportation
- Asset tracking
- Connected buildings
- Smart city, infrastructure
- Industry 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

Addressing market needs – example EV Charging

What problems we solve



Various wireless technologies applied

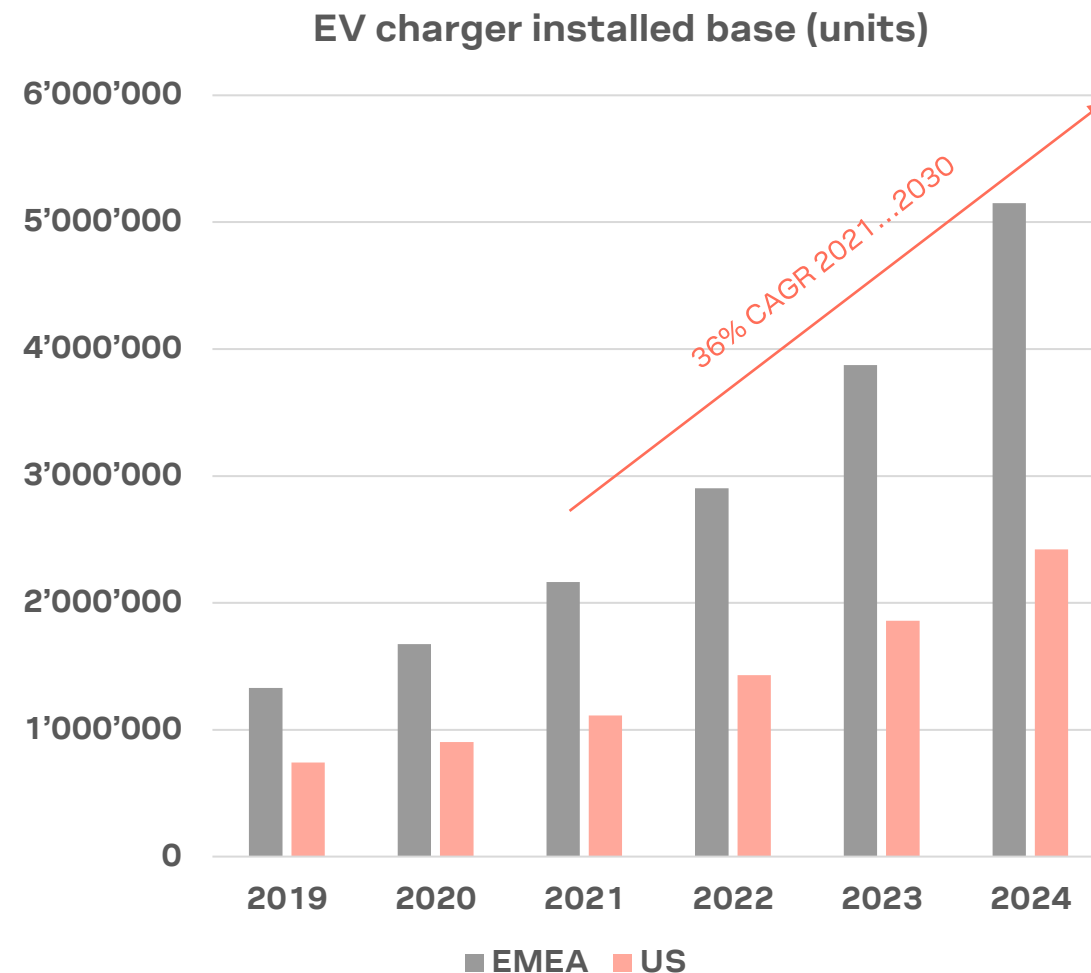
- Locate charging station
- Deliver charge station status to the cloud
 - Monitor availability and status of charging stations
 - Remote monitoring and predictive maintenance of EV charging station
 - Peak load reduction and dynamic load management
 - V2G (Vehicle to Grid), bidirectional charging
- Connect to car and user
 - Control the charging
 - Optimize charging time, energy consumption, and costs

EV charging – a focus market

A strongly growing market



- **Market research predicts**
 - 136 million EVs on the street in 2030
 - 36% CAGR for the EV battery charger market in the period 2021-2030
- **58% of total installed base in 2024 expected to be networked with cellular or Wi-Fi**



Source: u-blox based on 3rd party market research

Customer Nofence.

Knut Bentzen, Oscar Hovde



Nofence



Knut Bentzen
CEO



Oscar Hovde
Founder/CTO





Virtual Fencing

How it works

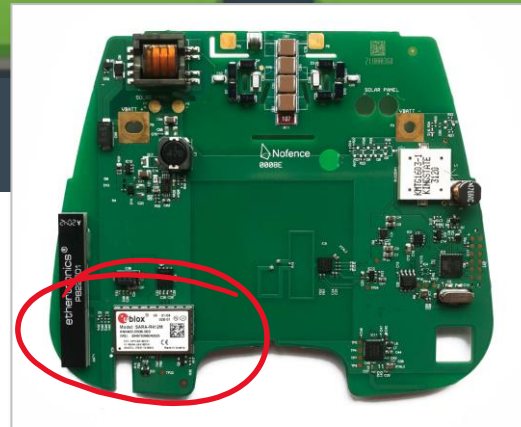
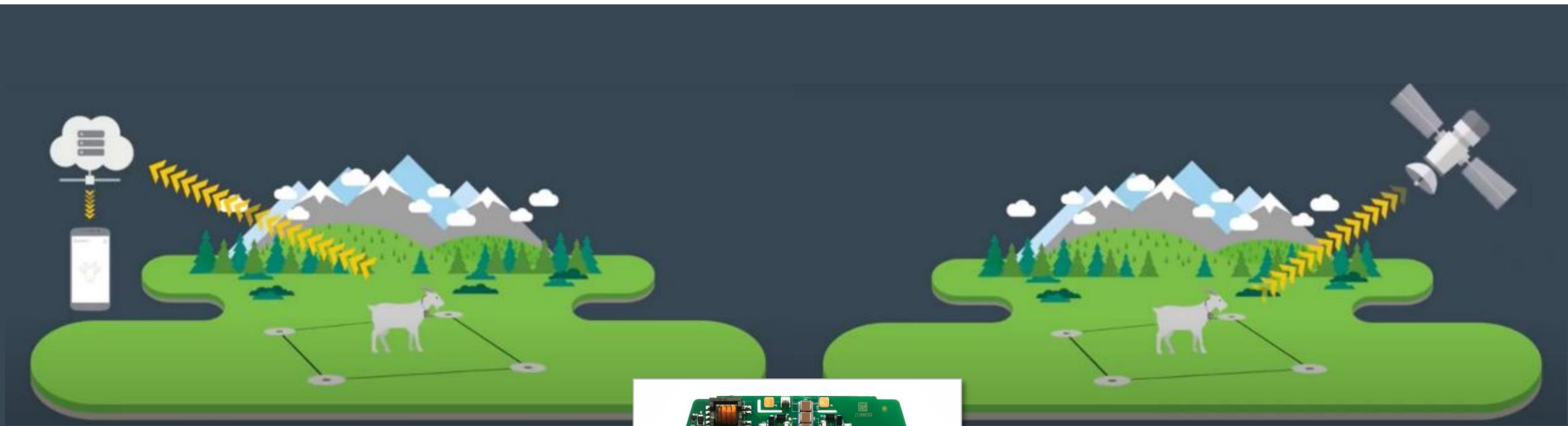




Built for scale - self-onboarding - no base installation needed



Modem for data transfer – GPS/GNSS for position & fencing





The problems we solve

No real innovation in fencing for 90 years

1874

Barbed wire



1936

Electrical fence



Two major problems



Inefficient for the farmer*



Expensive



Labor intensive



Time consuming

* Potential savings of up to 38,000 USD/year w/50 cattle



Killing soil & ecosystems*



Industrialized



Pesticides & fertilizer driven



Subsidized

* UN: Potentially 60 harvests left if current practices continued

Virtual fencing enables regenerative farming practices



Grazing livestock can **restore and balance natural biodiversity** in the ground in only 2 years ¹⁾





Product/Market fit

Higher demand than we can serve



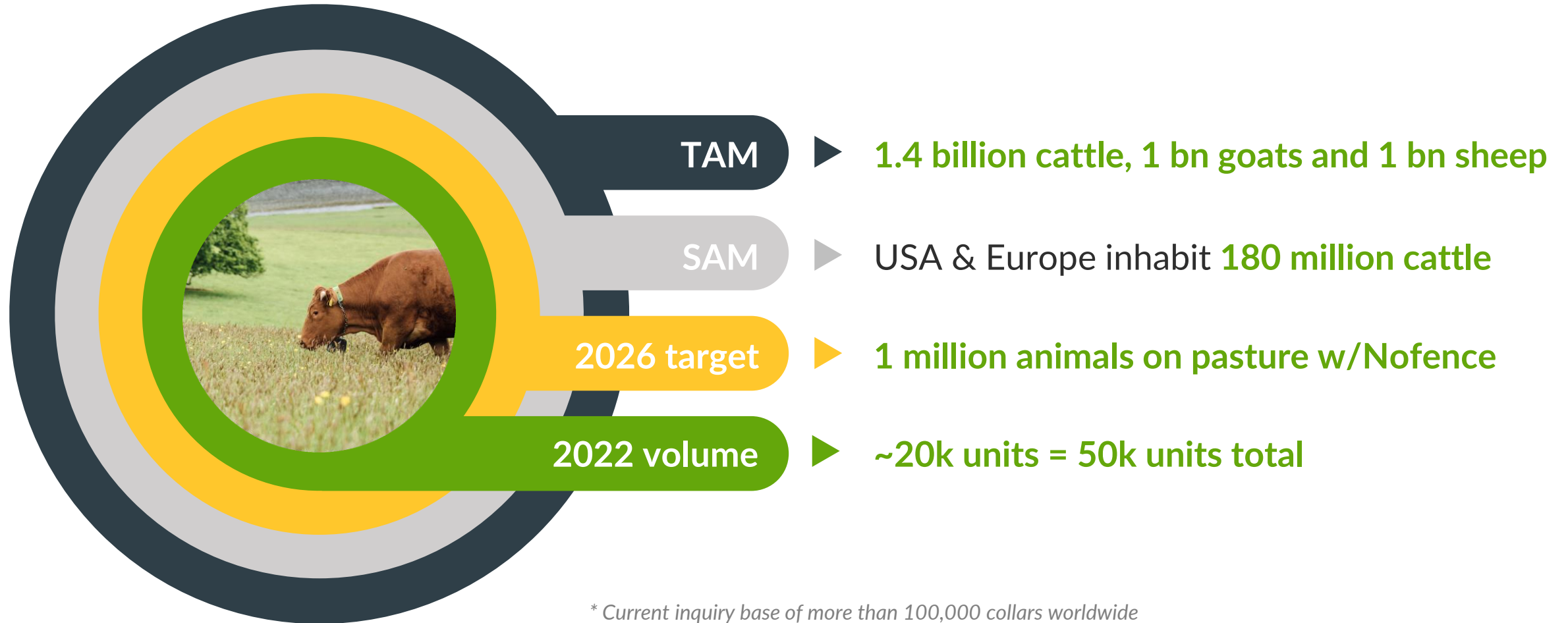
A wealth of data to develop new services



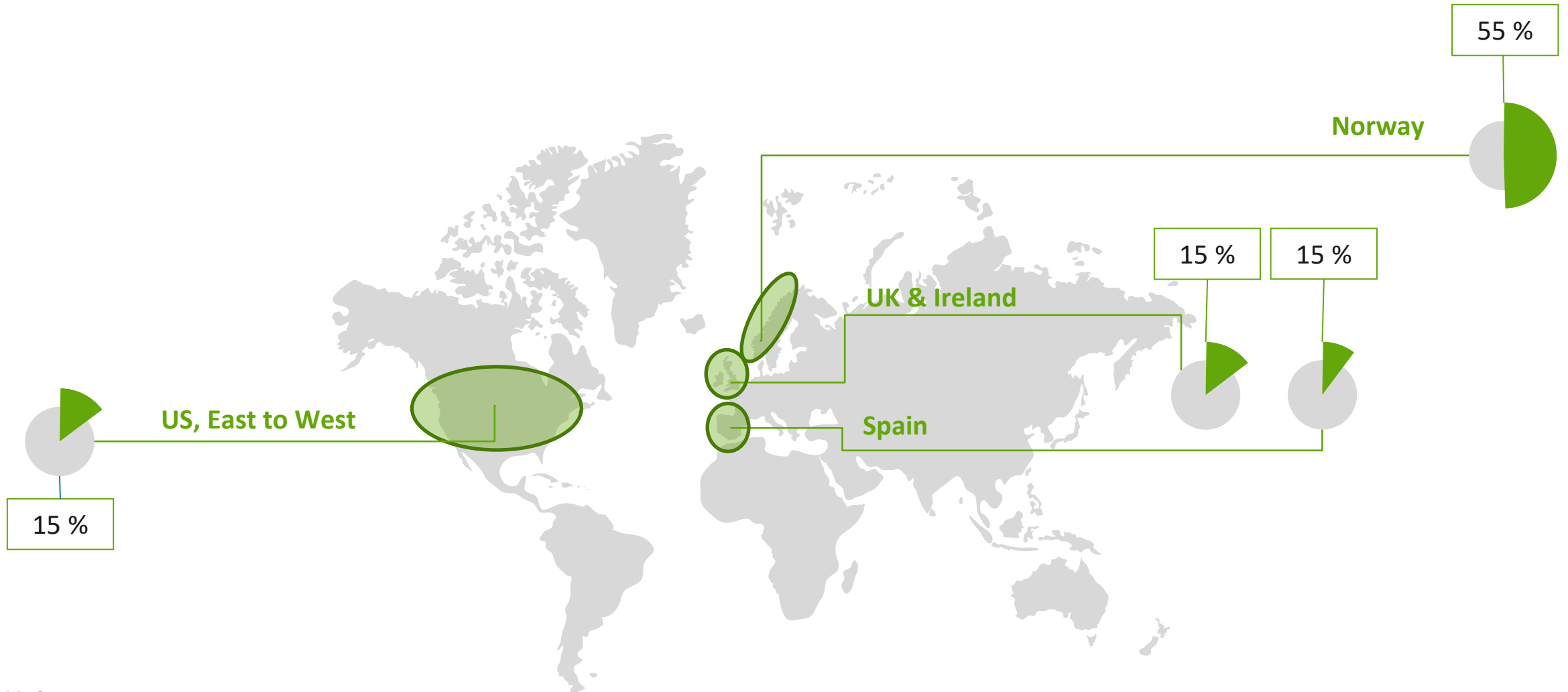


Growth plan

Only scratching the surface of a vast global market

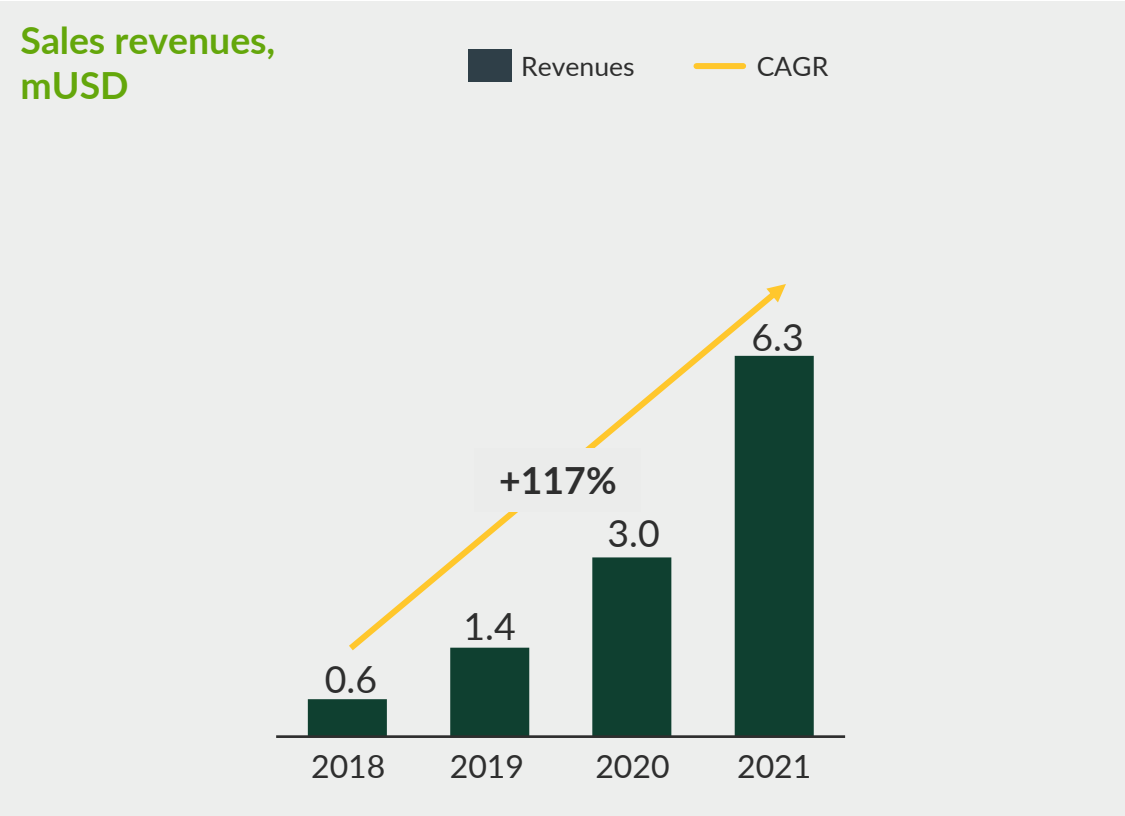


Selected initial markets: Norway, UK/I, US, Spain

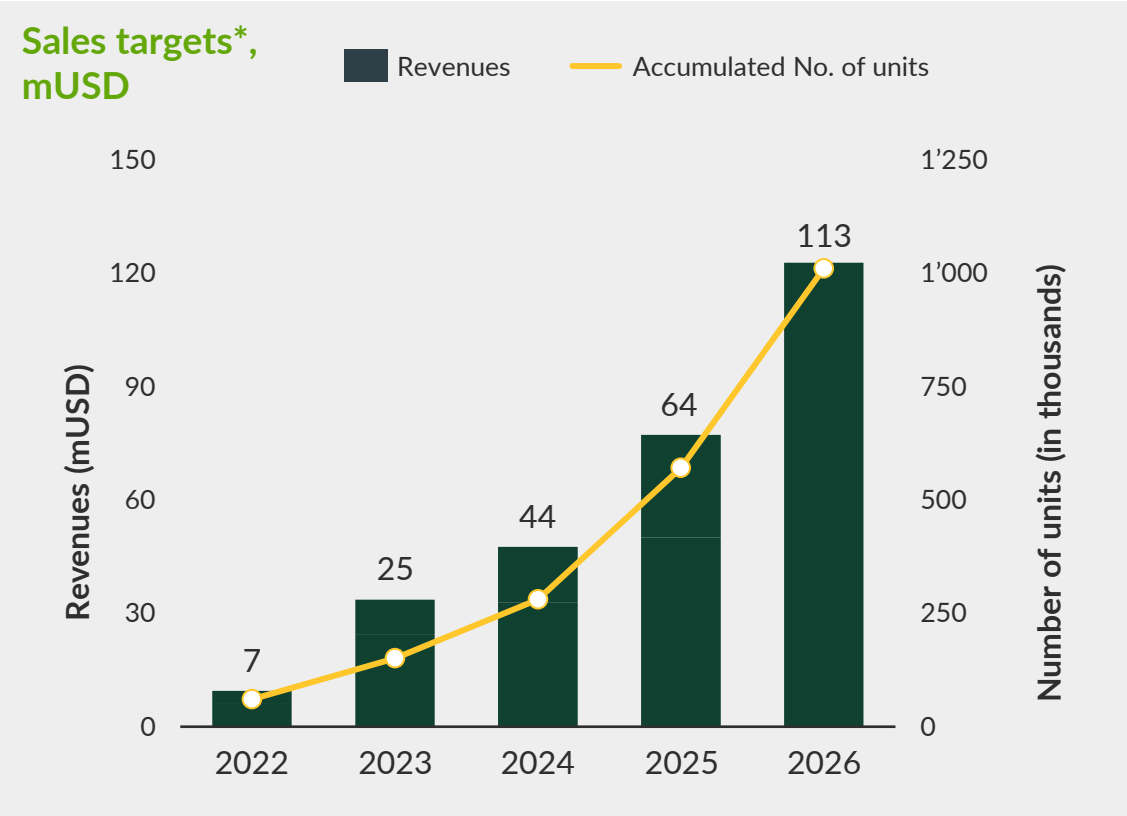


Repeating what we have done so far

Growth achieved




Growth planned



** Not including revenue from future value-adding services based on data collection from the collars*

Successful Series A completed Nov 11th 2022

A photograph of two brown cows in a grassy field. The cow on the right is wearing a black Nofence collar with a green light and a yellow ear tag. The cow on the left is also wearing a similar collar. They are both looking towards the camera. The background is a blurred green field.

130 mNOK to get more
happy animals on pasture

Customer Nofence – what problems we solved



Our solution delivers the technology core for animal herding and welfare

Customer Profile

- Enthusiastic and animal-caring
- Developing technology that makes it easier to graze animals on pasture, with animal wellbeing of high importance

Value Proposition

- Virtual fence based on accurate and reliable GNSS positioning
- Low-power solution to last the season.

Solution

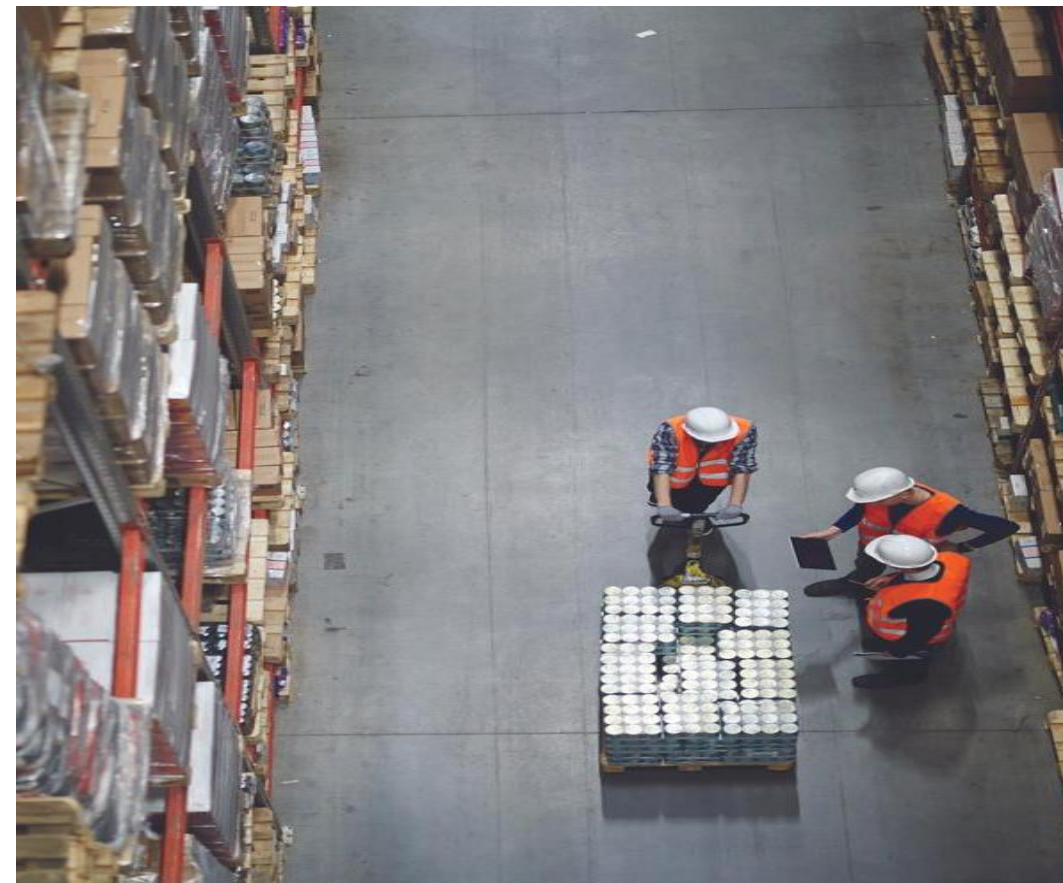
- Reliable, robust GNSS position
 - Low power consumption
 - Future-proof due to seamless upgrade possibility to next generation
 - Integrating technical requirements in next generation products
-

Our solution attitude enhances profitable growth



Gaining a higher share in the value chain

- **Turning in-depth market and application understanding into salient solutions**
- **Maximize customer value**
 - Innovative functionality
 - Better cost/performance ratio
 - Less implementation risk
 - Quick time-to-market
- **Customer focus and differentiation enhancing value creation for all stakeholders, enabling profitable growth**



Why customers choose u-blox.

Thomas Seiler

Why do customers choose u-blox

Our solutions meet customer needs



Customer goal

- Highly reliable product
- One product for the global market
- Low risk – during product development and during lifetime of final product
- A solid and dependable supplier



u-blox solution

- Ubiquitous connectivity, high positioning accuracy
- Broad module offering for versatile solutions
- Simple SKU management
- Global coverage and product certification
- Solution delivers reliability, resilience, robustness and security

u-blox's solutions leadership

Creating customer value

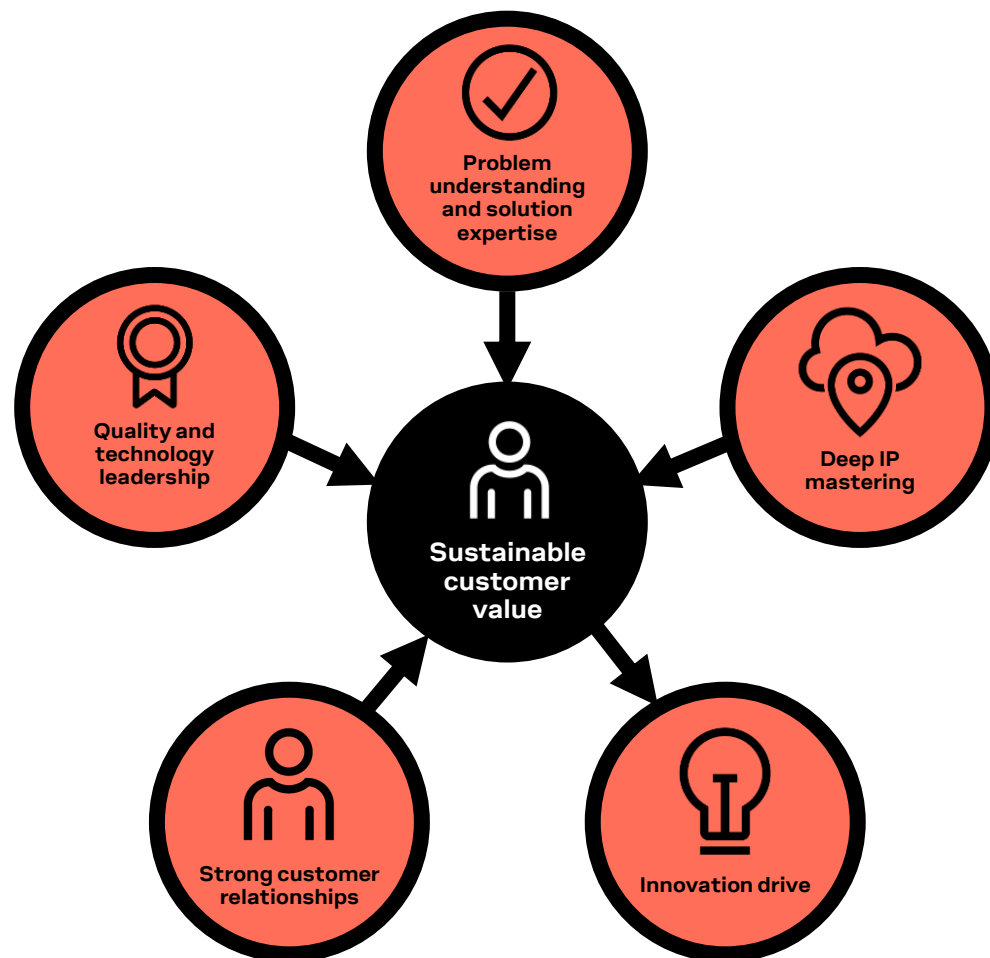


Quality and technology leadership

- Outstanding history of turning innovations into long-term business (10 GNSS generations – 10 years product availability)
- Wide product pipeline with strong market launch cadence

Strong customer relationships

- Highly embedded customers
- Loyalty and stickiness of customer relationships



Problem understanding and solution expertise

- Early understanding of emerging market needs
- Translation into solution-oriented product portfolio

Deep IP mastering

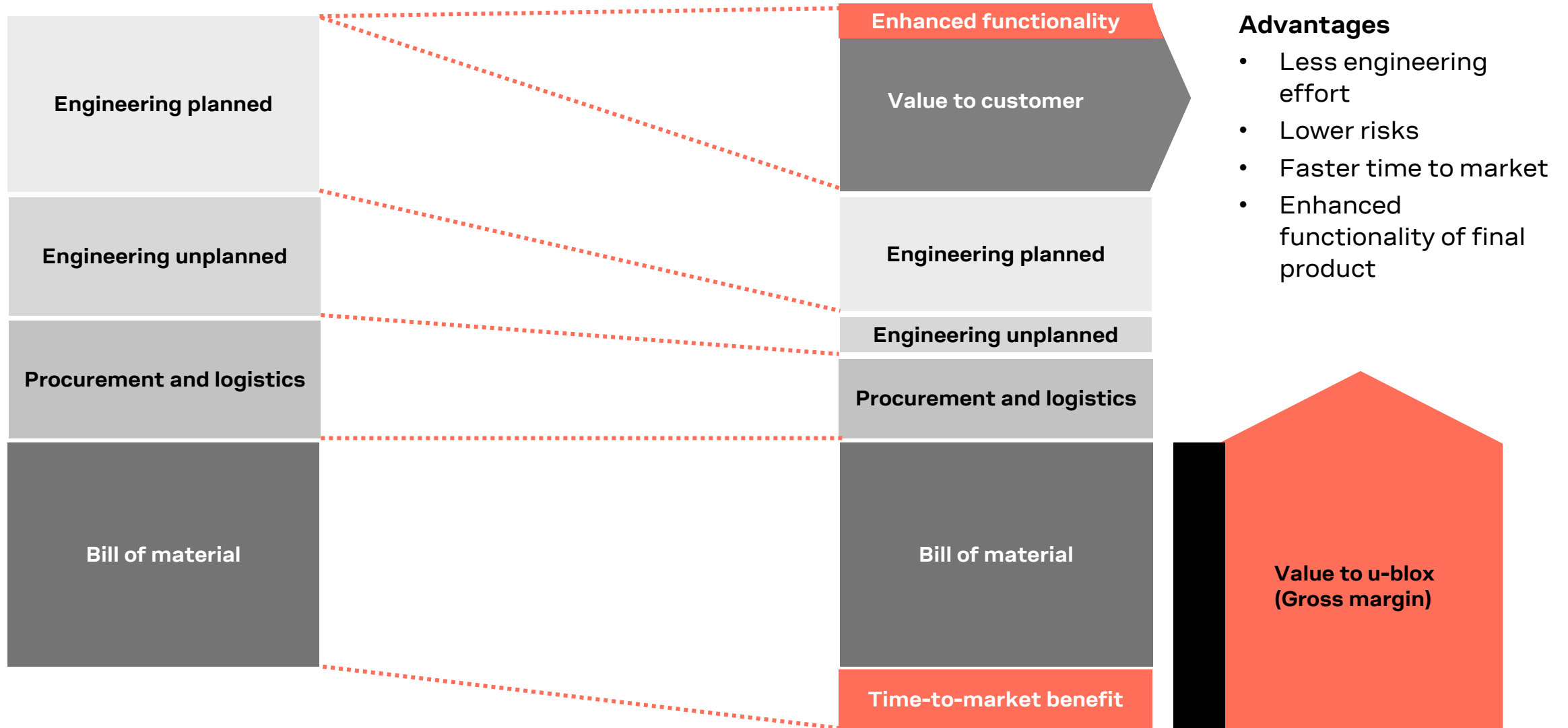
- Full ownership of IP in wireless technologies
- Complete system capability from chip-to-cloud

Innovation drive

- Track record of innovative leadership in wireless technology
- Excellent quality reputation for reliability and longevity

u-blox value enhancements

How customer value is created



Customer Tractive.

Michael Hurnaus

GPS Tracking & Wellness-Monitoring for Cats and Dogs

November 2022



10 million dogs get lost each year worldwide.

34% of pet owners lose their cat or dog at least once in the pets lifetime.

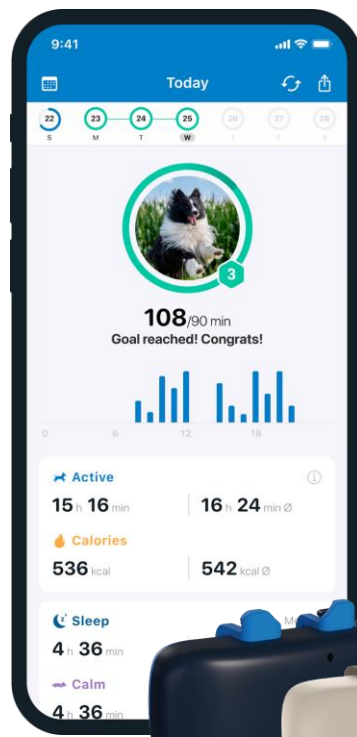
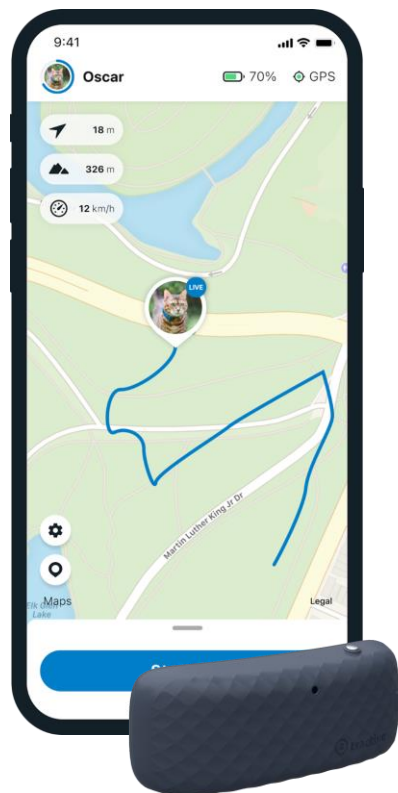
Pet owners worldwide trust us to make sure this never happens to them.

Tractive GPS Cat & Dog Tracker

★★★★★ 15.356 reviews

Amazon's **Choice**

Bestseller



GPS



LIVE Tracking



Virtual Fence



Wellness Monitoring



Rewards



Light Weight



Sound



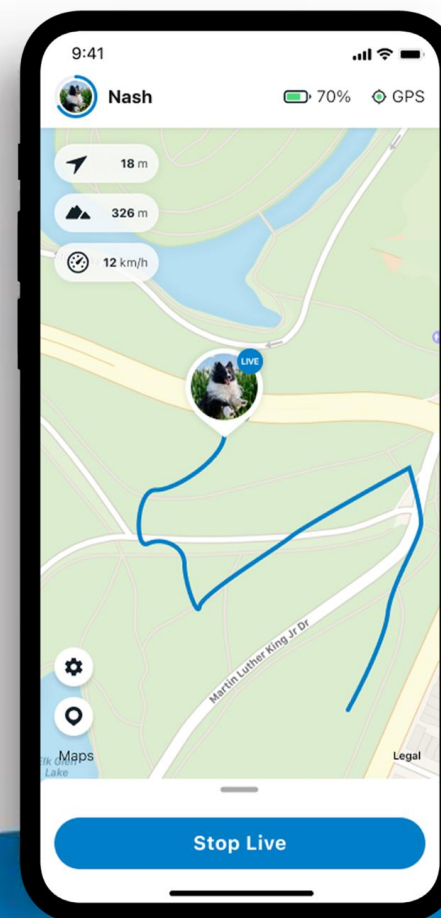
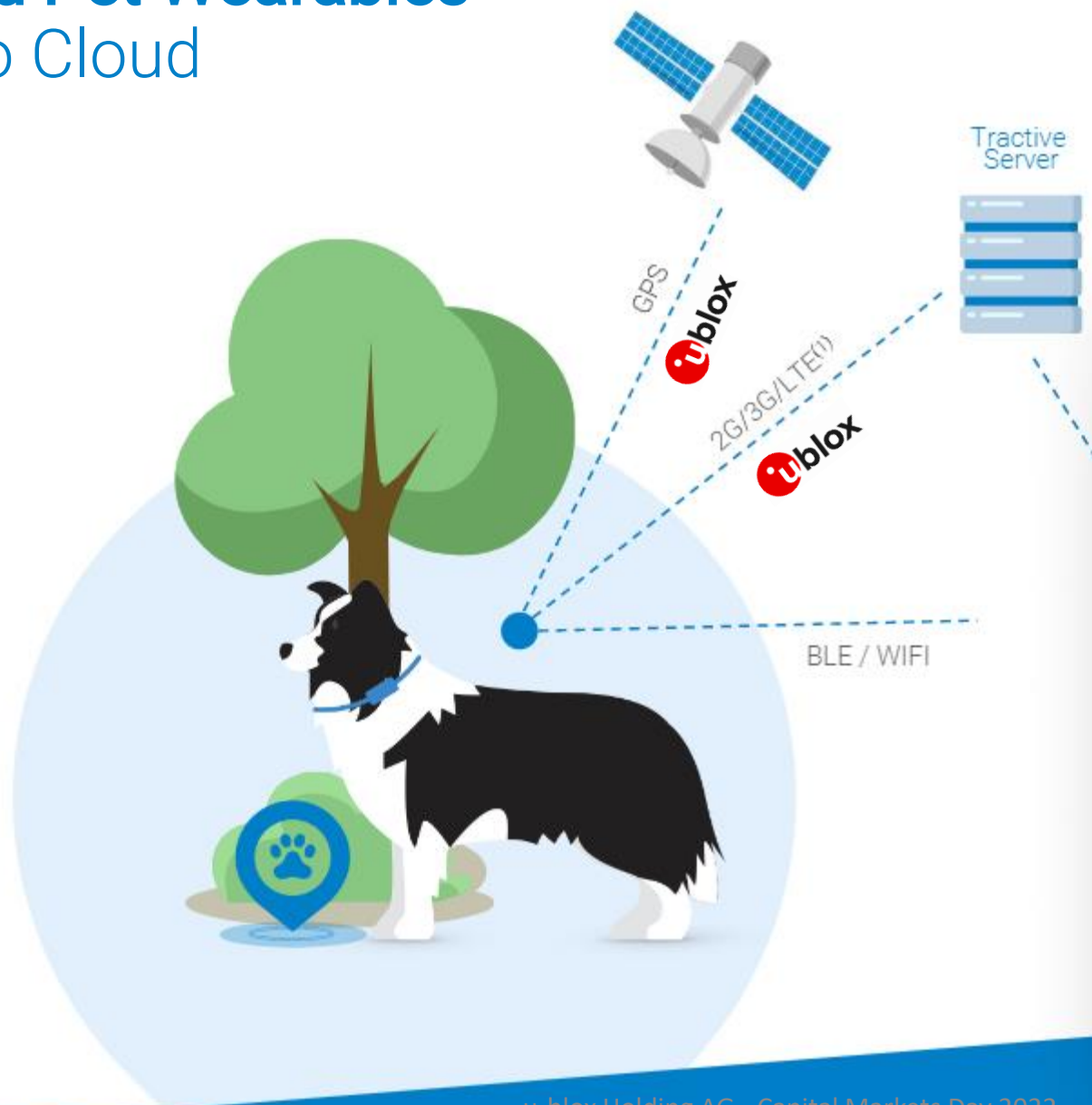
Light



Waterproof

IoT and Pet Wearables

Chip to Cloud



Proprietary Hardware

- **Turnkey Solution**
optimized for Dogs & Cats
- Integrated SIM Chip
- **In-house development**
- **Working with 600+ mobile operator networks**
- Lightweight (35g), Waterproof
- **Connectivity: u-blox** CatM1 modules 
- **GPS: u-blox** ZOE 
- Wifi, Bluetooth
- Accelerometer / Gyro for Health & Wellness Monitoring





SaaS-like Business Model



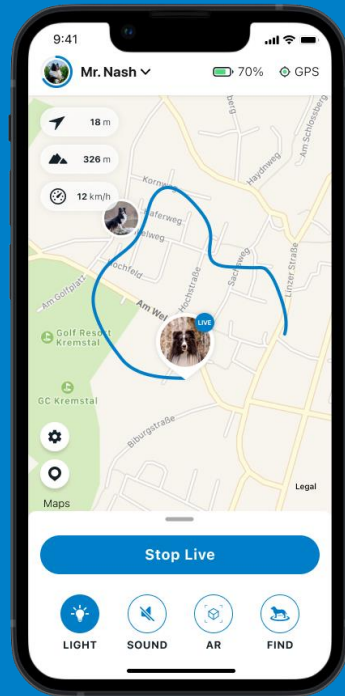
**Device/
Hardware**
MSRP \$49,99



**Required
Subscription**
~ \$80 / year



GPS Tracking



- LIVE Tracking
- Virtual Fence
- Trace History
- Danger Zones

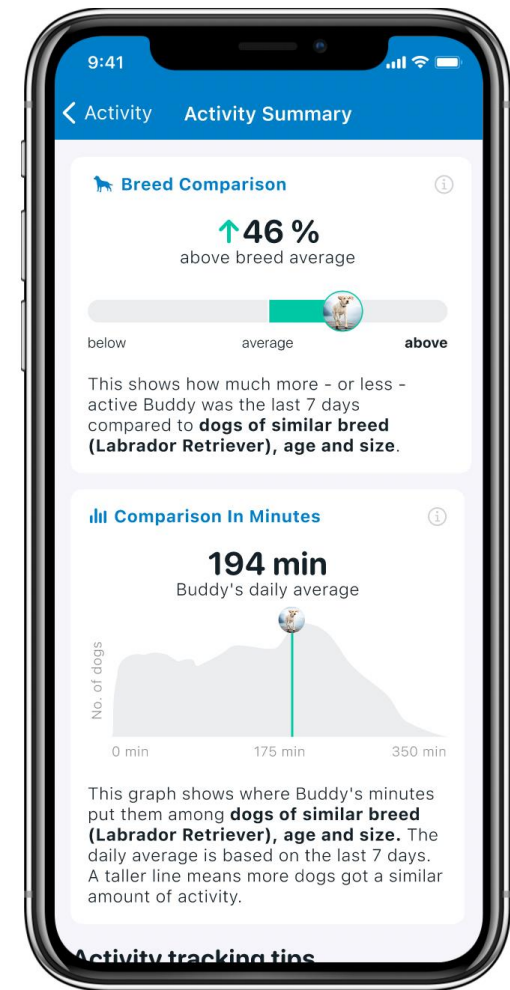
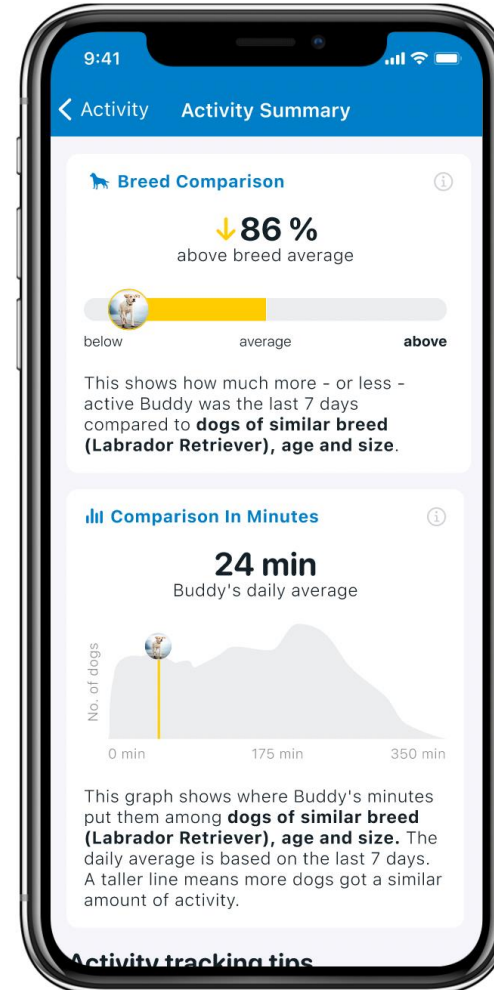
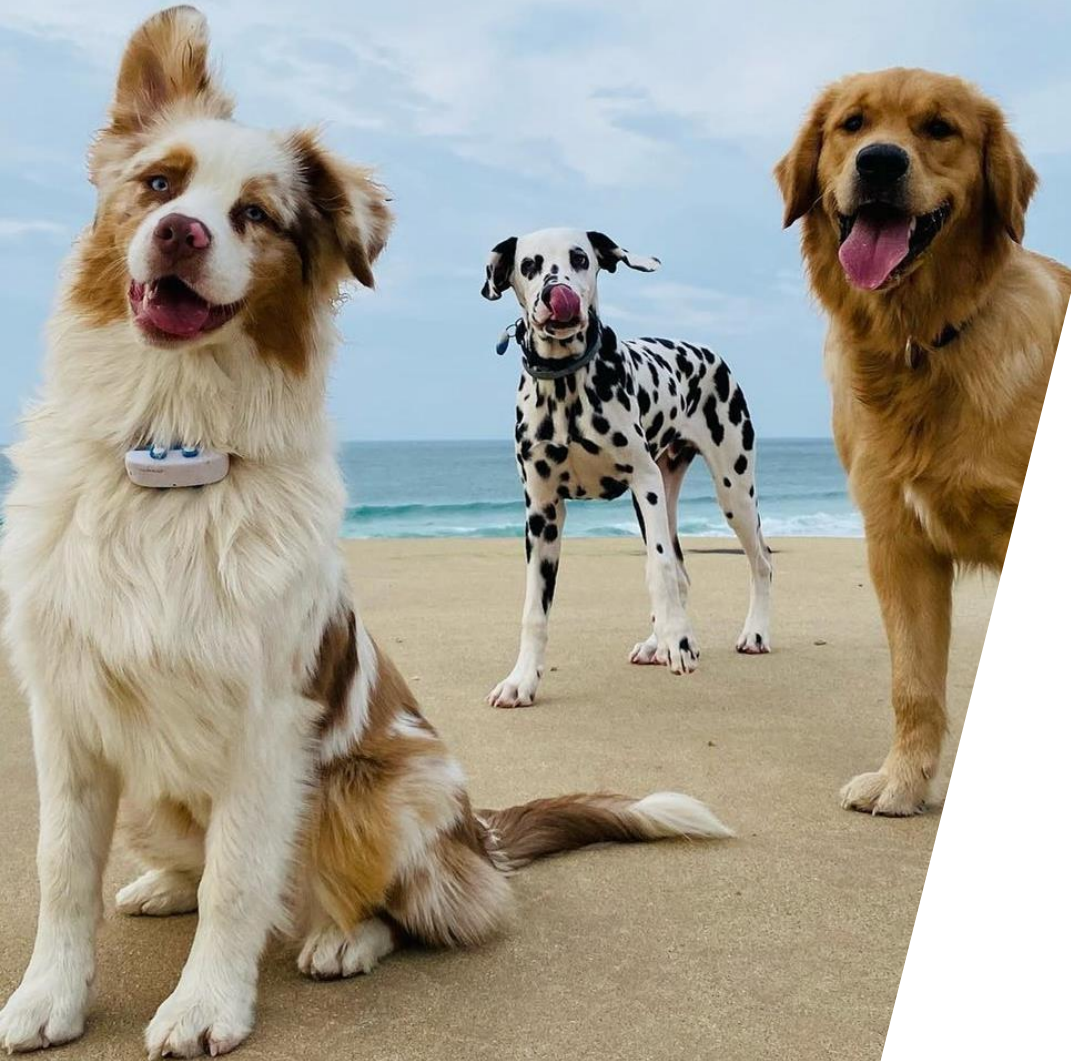
Wellness Monitoring

- Activity Monitoring
- Sleep Interruptions & Sleep Sessions
- Wellness Score



Peer Group Benchmarking

Understand the big picture





Challenges

In the connected pet world

- Size / Weight
- Battery Consumption of components
- Antenna design (GPS, Connectivity, BLE, Wifi etc...)
- 2G / 3G deprecation
- International Connectivity (Bands)
- Roaming Agreements / National Roaming
- Supply Chain

Tractive in Short

200

Employees

Austria / Seattle

Headquarter / US Office

2012

founded

700.000

active users

90% Europe

USA fastest growing market

> 50%

Growth YoY

NPS 35+

net promoter score

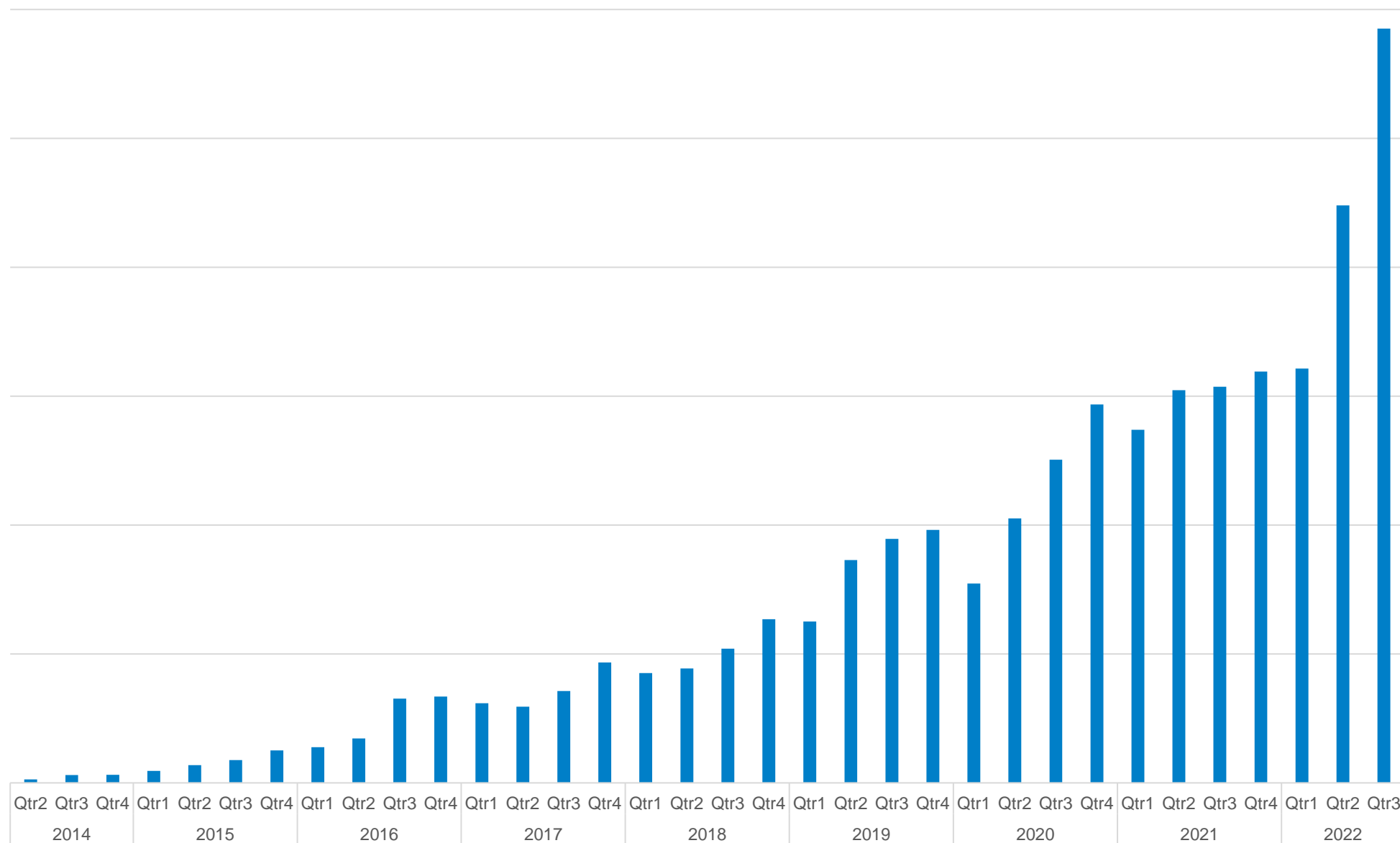
80%

of usage on dogs. 20% cats.

< 2%

monthly churn

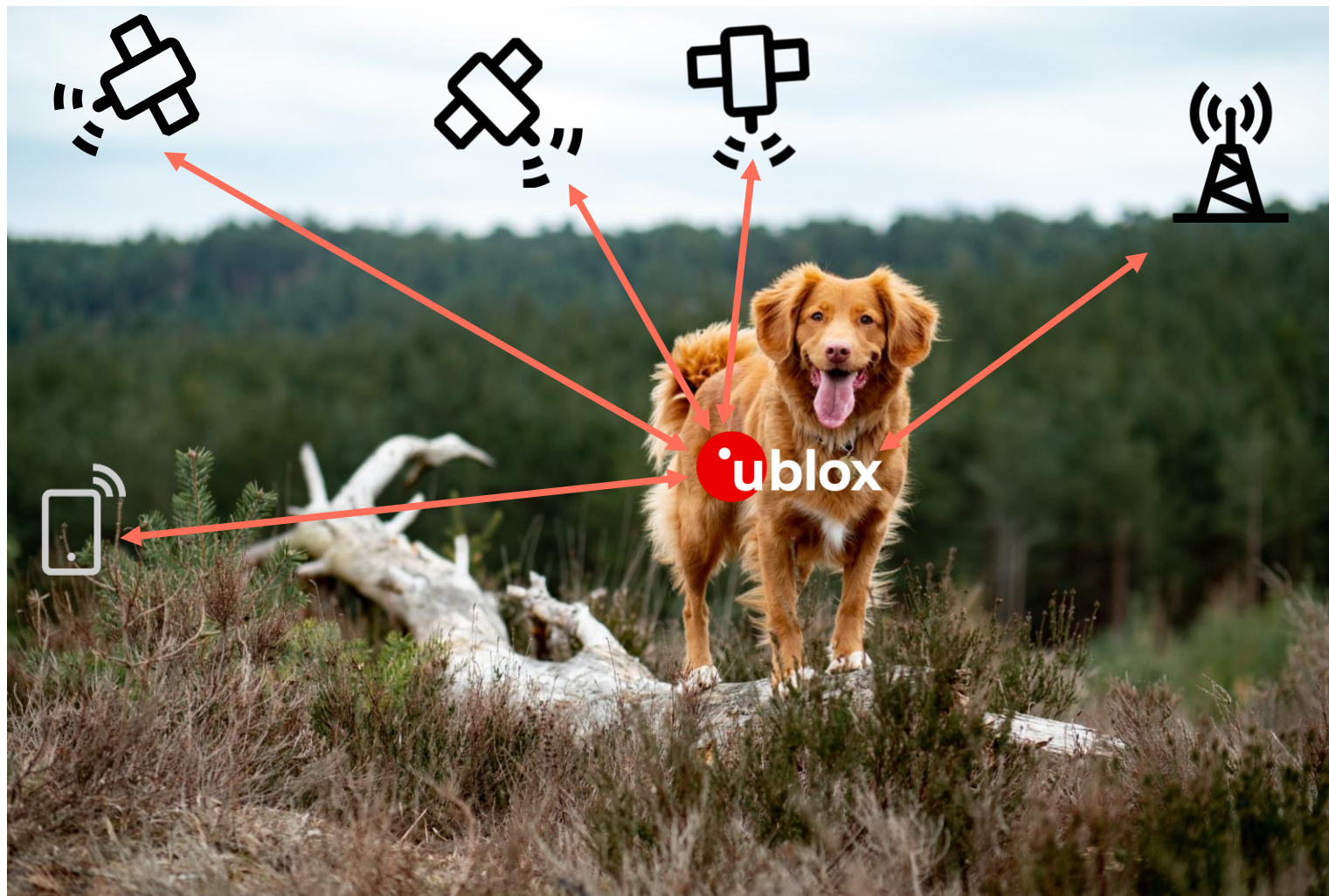
Accelerated Growth in **new** Subscribers



Thank you

Trusted solutions for tracking applications

A complete solution offering for a robust product



What our solution offering contains:

- High precision positioning
- Cellular communication
- Short range communication
- Data services

Customer Tractive – what problems we solved



Our solution made them number 1 in the US market

Customer Profile

- One of the world leaders in pet tracking solutions
Number 1 in the large US market
- Growing fast but keeping their startup spirit

Value Proposition

- Best-in-class in pet tracking markets super low power solution for CAT-M1 only
- V6 Collar is an enabler for the Tractive service subscriptions

Solution

- Long-term design compatibility thanks to common form-factor
 - Highly integrated, high performance, robust solution
 - Proficient technical support
 - Solid supply chain enabling growth
-

Chip-to-cloud

We make it easy for our customers



- Services create benefits along the value chain
- Customer journey can start at any point in the chain
- AWS integration for quick attachment to the cloud
- Thingstream platform offers rich values for higher customer satisfaction
 - Connectivity
 - Security
 - Location
 - Augmentation
 - Software maintenance

Why are we competitive?



There is no comparable company with our unique strategic line-up.

- Since our foundation as a spin-off from ETH, we have maintained our **innovative spirit**; the **still-present founders** are the guarantors of this attitude.
- **Strong enthusiasm** for our purpose is the central driver in our product centers.
- We focus on our markets and customers with **high dedication**.
- We are **lean and agile** - we make innovative products with less resources and shorter turnaround times.
- Our large competitors focus on very large customers in the consumer space – not our realm.
- We have **robust market share** in our market sectors and are often the **undisputed leader**.
- We are **innovative and reliable** to the core.

Competitive environment

No other company offers the same solution portfolio



Company	Product Offer	Cellular	Positioning	Short Range Radio
Mediatek	Chip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Qualcomm		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nordic		<input type="checkbox"/>		<input type="checkbox"/>
ST Microelectronics			<input type="checkbox"/>	<input type="checkbox"/>
Broadcom			<input type="checkbox"/>	<input type="checkbox"/>
NXP				<input type="checkbox"/>
Sequans		<input type="checkbox"/>		
Silicon Labs				<input type="checkbox"/>
Autotalks				<input type="checkbox"/>
u-blox		<input type="checkbox"/>	<input type="checkbox"/>	
Quectel	Module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alps		<input type="checkbox"/>		<input type="checkbox"/>
Fibocom		<input type="checkbox"/>		
Laird		<input type="checkbox"/>		
LG				<input type="checkbox"/>
Murata				<input type="checkbox"/>
Septentrio			<input type="checkbox"/>	
Sierra Wireless		<input type="checkbox"/>		
Silicon Labs				<input type="checkbox"/>
Thales		<input type="checkbox"/>		
u-blox		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hexagon			<input type="checkbox"/>	
Telit	Services	<input type="checkbox"/>		
Trimble			<input type="checkbox"/>	
u-blox		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The **combination of our three core technologies** offered in the form of **chips and modules is unique in the market.**

- Competitors in the integrated circuits space focus mainly on consumer/handset/PC markets
- Competitors in the module space **have no access to core IP** and implement only the reference design of the chip suppliers
- Recent mergers reduce options for customers

*Semtech to acquire Sierra Wireless **Telit to acquire Thales's cellular IoT products

14'500 customers worldwide

Continued expansion of our customer base



Illustrative selection of customers

An aerial photograph of a combine harvester working in a golden-brown field. The harvester is moving from left to right, leaving a trail of dust behind it. The field is divided into long, straight rows of crops.

Recent financial highlights.

Roland Jud

Historical revenue and EBITDA development



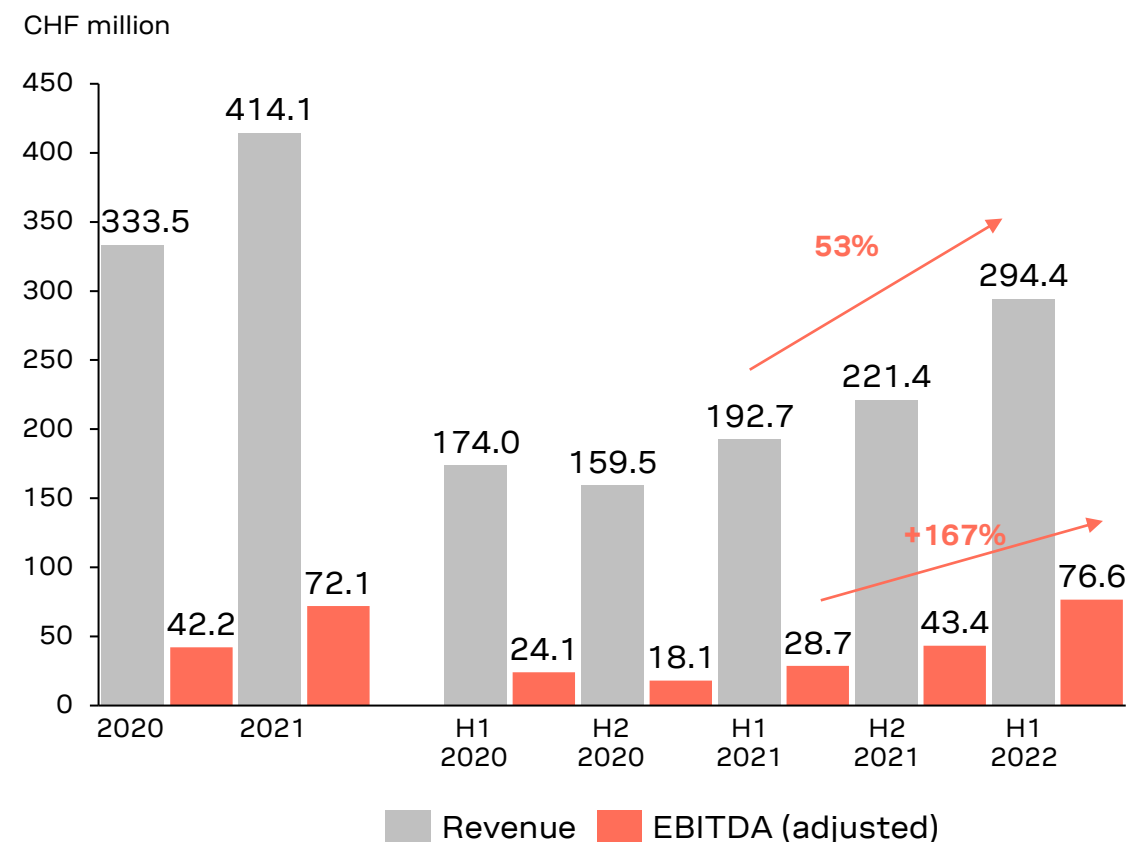
Strong revenue growth

Comments

- **Strong growth of 2022 revenues: 52.7%** compared to 1H 2021 to new record level
 - Strong rebound of orders since August 2020
 - Accelerated trend for connected devices
 - Expanded production output
- **Q3 2022 revenue growth trend continued**
- The USD/CHF rate impacted revenue positively, growth at 2021 rates: 49.9%
- EBITDA (adjusted¹⁾) margin strongly increased to 26.0%

¹⁾ Excluding share-based payments, impacts based on IAS-19, amortization of intangible assets acquired, impairments, and non-recurring expenses, see slide 16.

Revenue and EBITDA (adjusted)



Gross profit

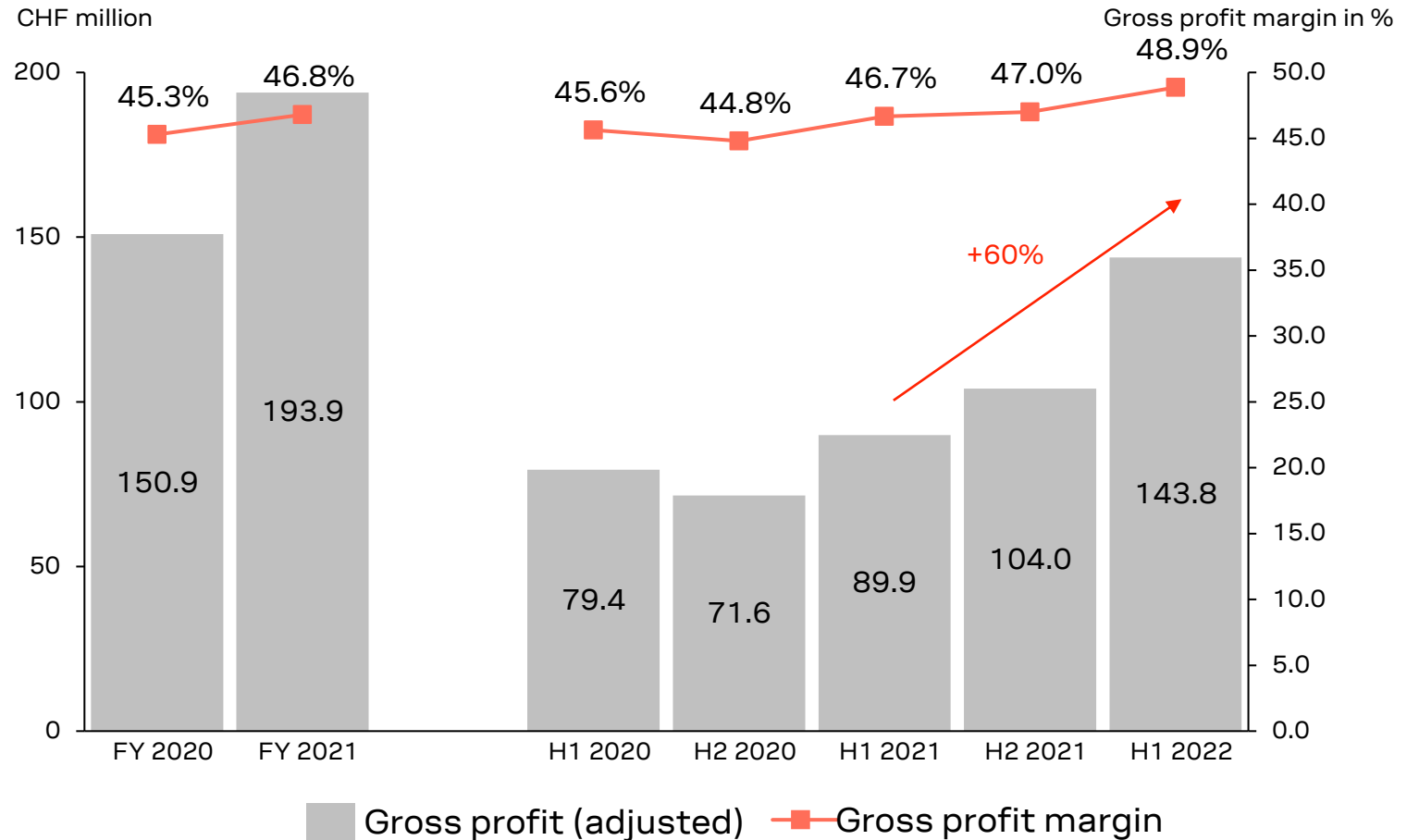


Continued increase of gross margin

Comments

- **Gross profit (adjusted)** increased to CHF 143.8m
- **Gross profit margin (adjusted)** increased from 46.7% to 48.9% due to favorable product mix and sales price increases
- No impact from FX (natural hedging)

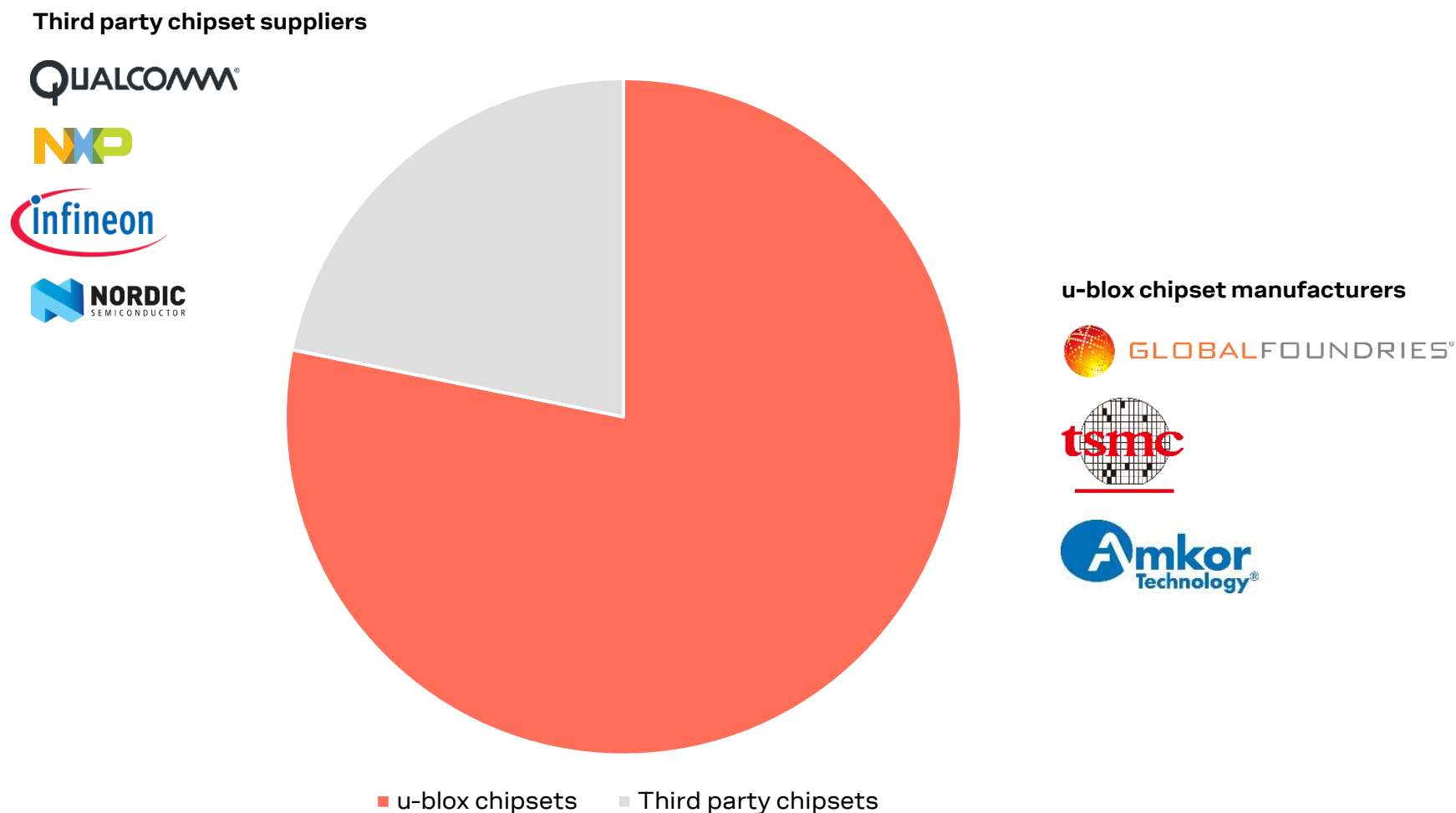
Gross profit (adjusted) / Gross profit margin (adjusted)



3/4 of our gross margin is based on proprietary chipsets



Strong driver for profitability based on u-blox core IP



Estimated data 2021

Research & Development

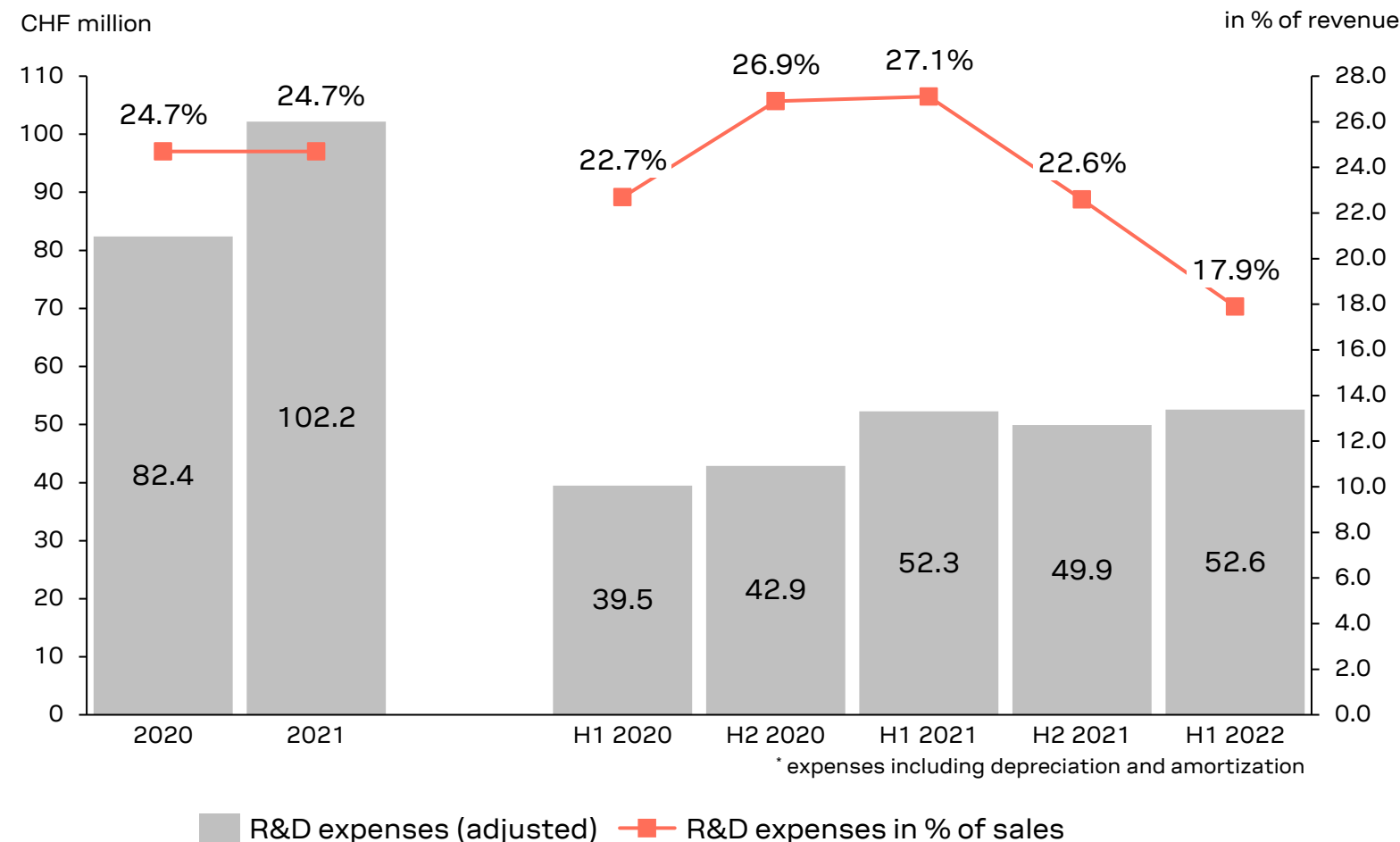


R&D expense ratio reduced

Comments

- **R&D expenses* (adjusted) ratio reduced to 17.9%**
- R&D profited from positive FX impact, with **investments into new products and into establishing our services offering**
- **As % of revenue R&D expenses reduced significantly** with increased topline

R&D expenses* (adjusted)



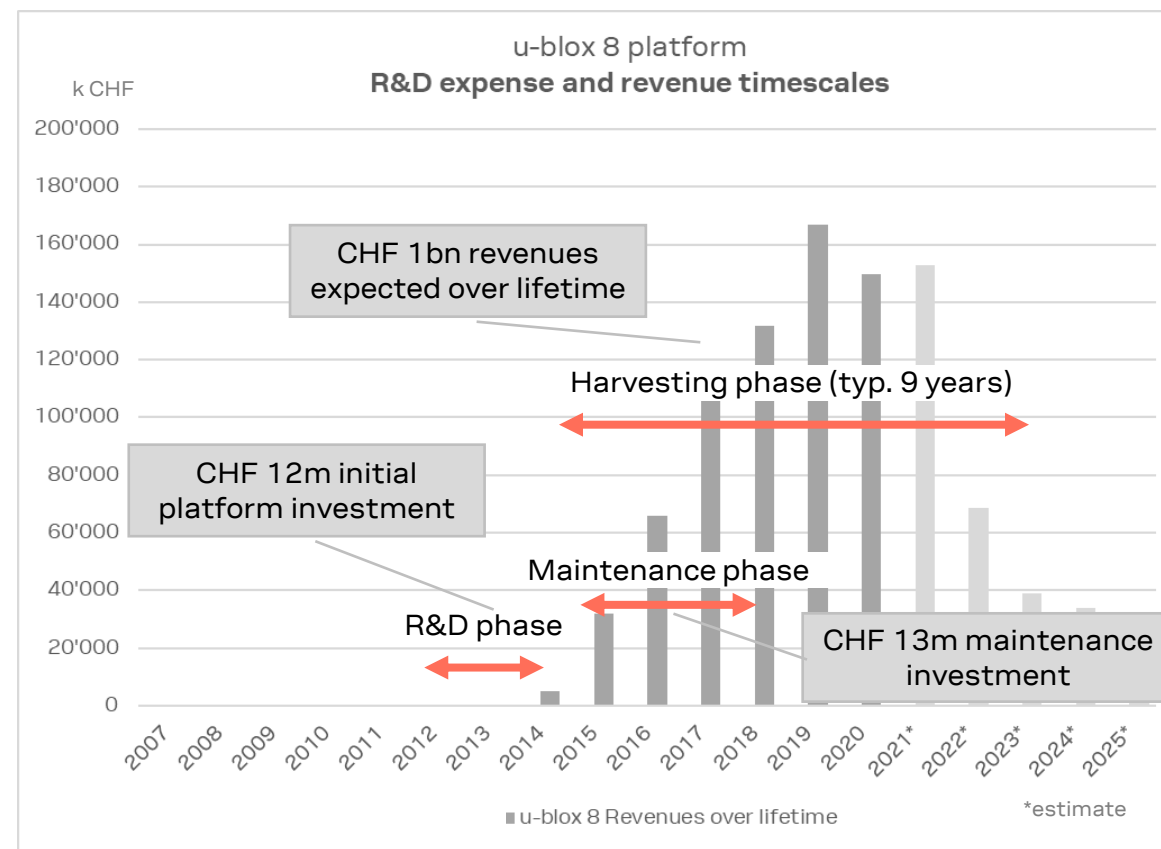
Why we capitalize R&D

R&D phase is short over very long harvesting time



Example u-blox 8 platform

- u-blox 8 platform was developed between 2012 and 2014
- Market introduction 2014
- End of life expected in 2025
- Useful life 9 years with CHF 1bn expected sales over lifetime with continued maintenance investments
- Strong IRR from platform investments



Distribution & Marketing

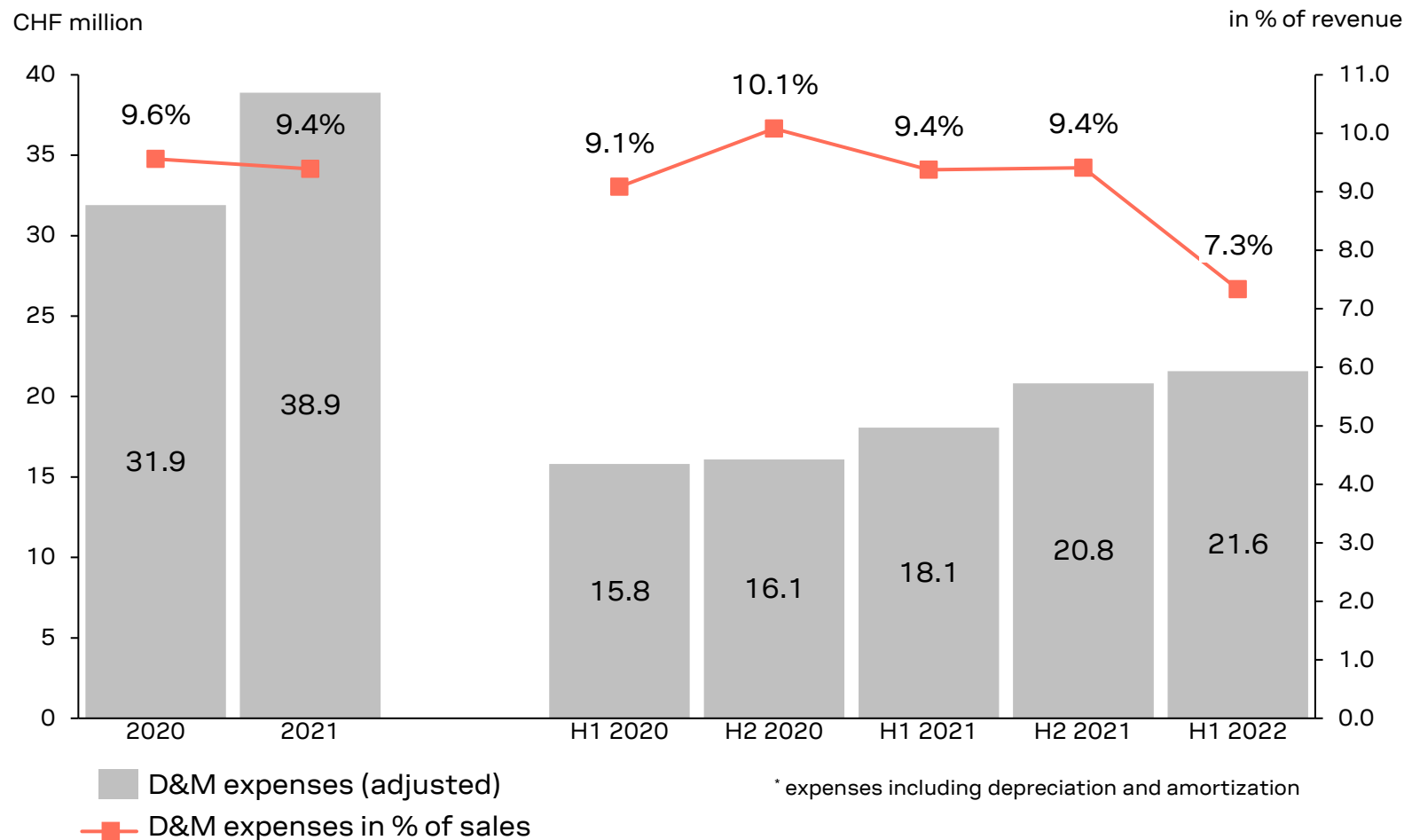


Significantly reduced D&M effort

Comments

- D&M expenses* (adjusted) only **slightly increased** in absolute terms despite strong revenue growth
- As % of revenue D&M expenses* **reduced significantly** with increased top line

D&M expenses* (adjusted)



Consolidated statement of cash flows

Strongly growing business affected net working capital

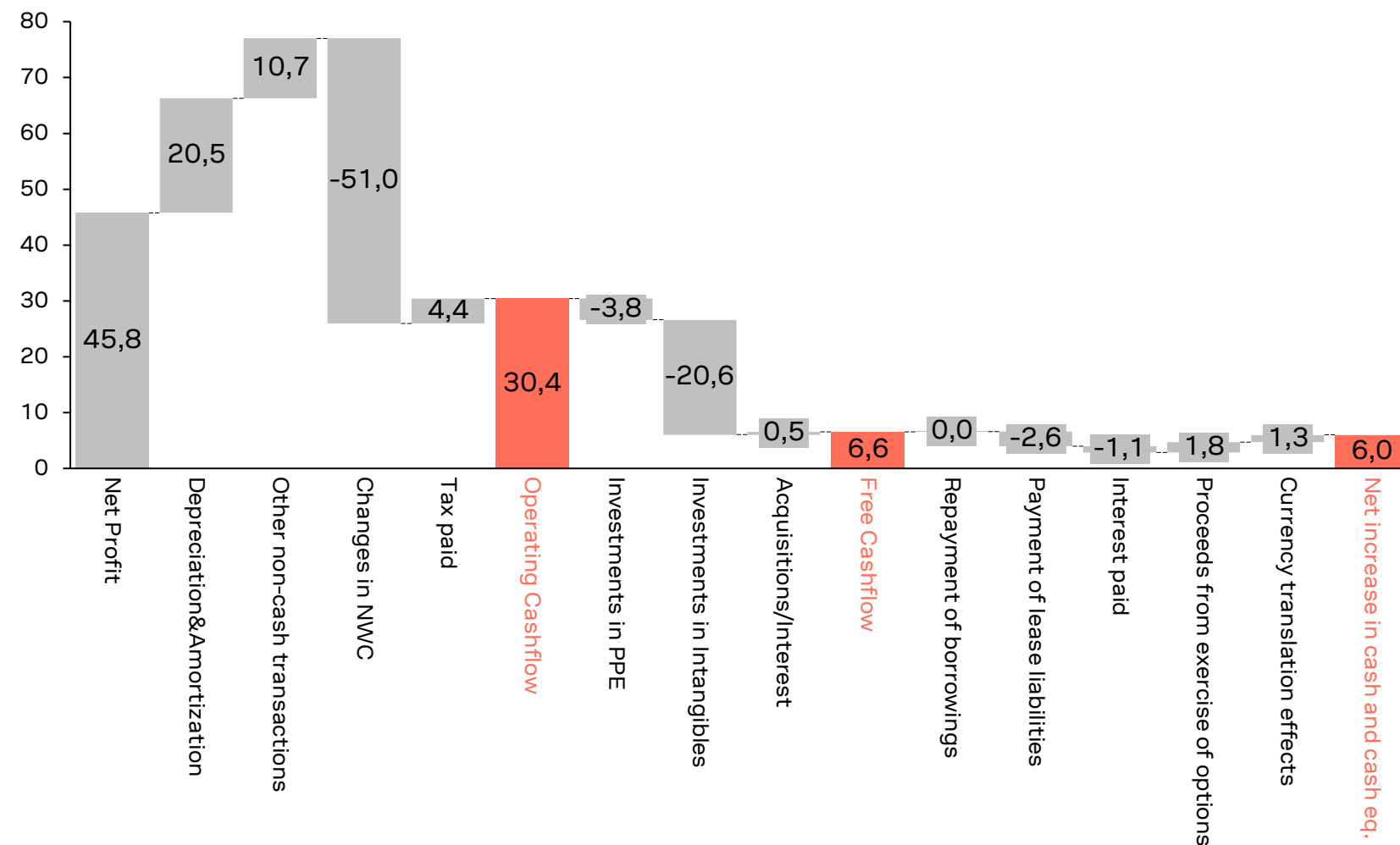


Comments

- Cash flow from operating activities of CHF 30.5m (1H 2021: CHF 43.0m)
- Business growth reflected higher net working capital
- Free cash flow (before acquisitions) CHF 6.6m (1H 2021: CHF 27.7m) affected by NWC increase for inventory

Cashflow

CHF million



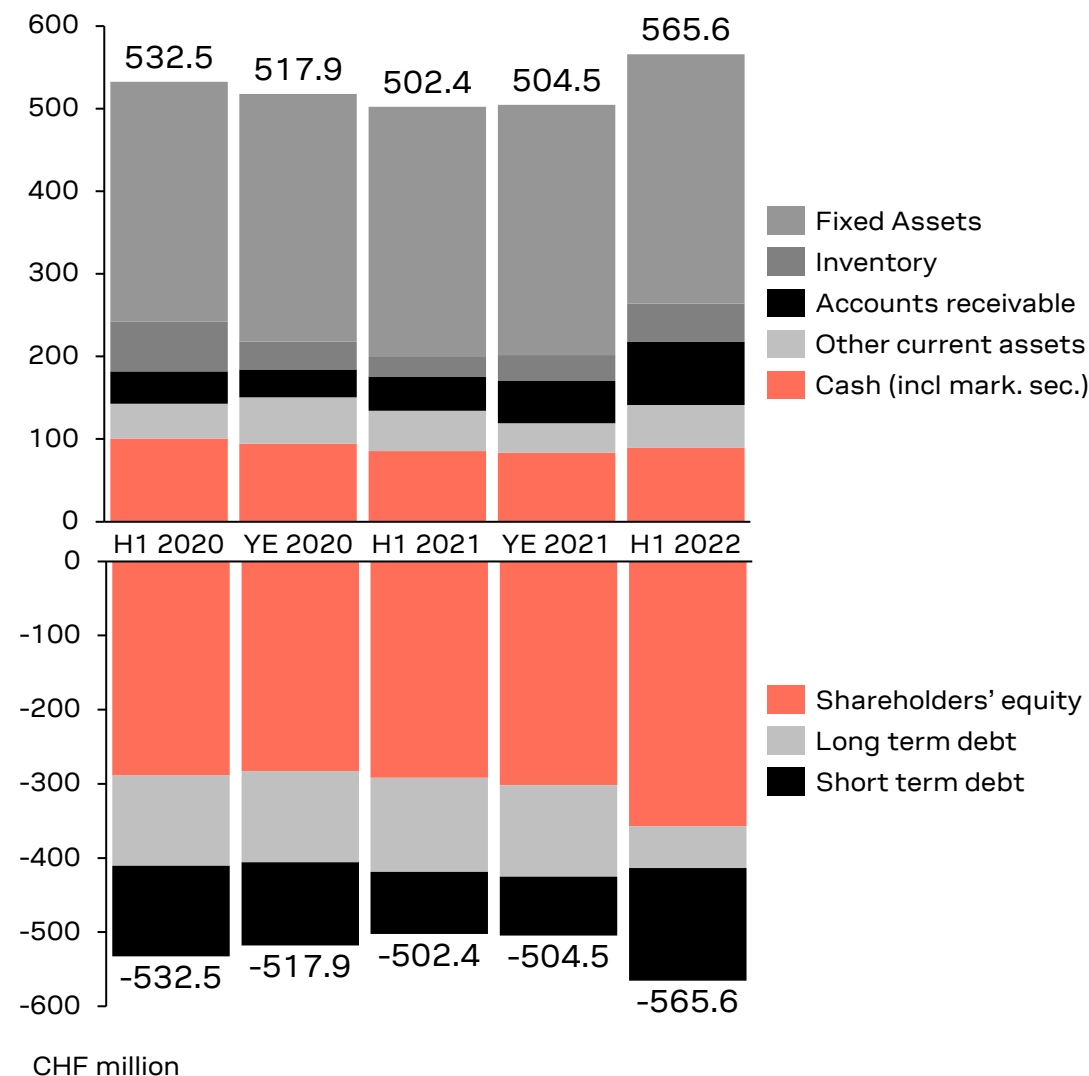
Strong equity position – solid cash levels

Continued build of shareholders' equity



Comments

- **High shareholders' equity ratio**
- **Solid cash liquidity** (incl. marketable securities)
- NWC impacted by temporarily increased inventories
- Various options for repayment maturing bond in April 2023



Q&A

Go-to-market strategy.

Markus Schaefer



Undisputed foundation in the value chain

How we solidly partner with customers



- Our position **builds-up from core and cannot easily be attacked.**
- We **deliver complex technology** to our OEM customers that otherwise is difficult for them to get.
- We offer a **high-touch customer experience** with service capabilities and competencies that are unique in the industry.
- We expand our reach in the **value chain with services.**
- We do **not compete with our customers.**

Focus

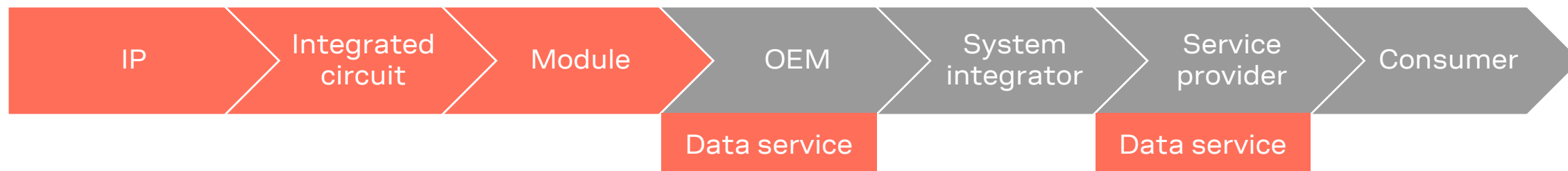
Win

Solution

Leading

Selection

Satisfaction



Sharp focus to move design-ins to business-wins

Structures for supporting a large customer base



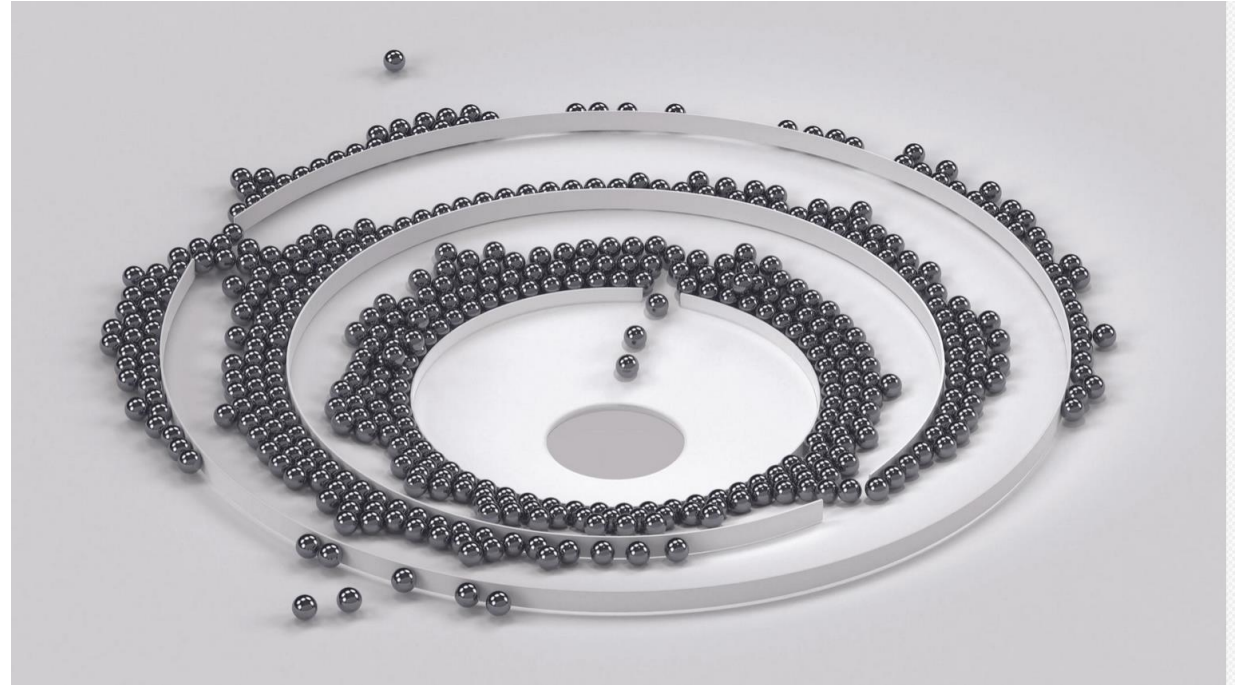
We manage a large customer portfolio:

- The right structure in place with well thought-through concept based on **direct sales**
- With ~**70 customers we make 80% revenue**, and they get highest level of attention
- With the remaining 14'500 customers we offer support via distributors, forum, portal, documentation, tools for **optimum customer satisfaction**
- **Deep engagement with customers** by our technical and sales resources, and channel partners
- We are a **long-term partner** aligned with our customers' product lifetimes

Sales channels

Broad market presence in many channels – still much untapped potential

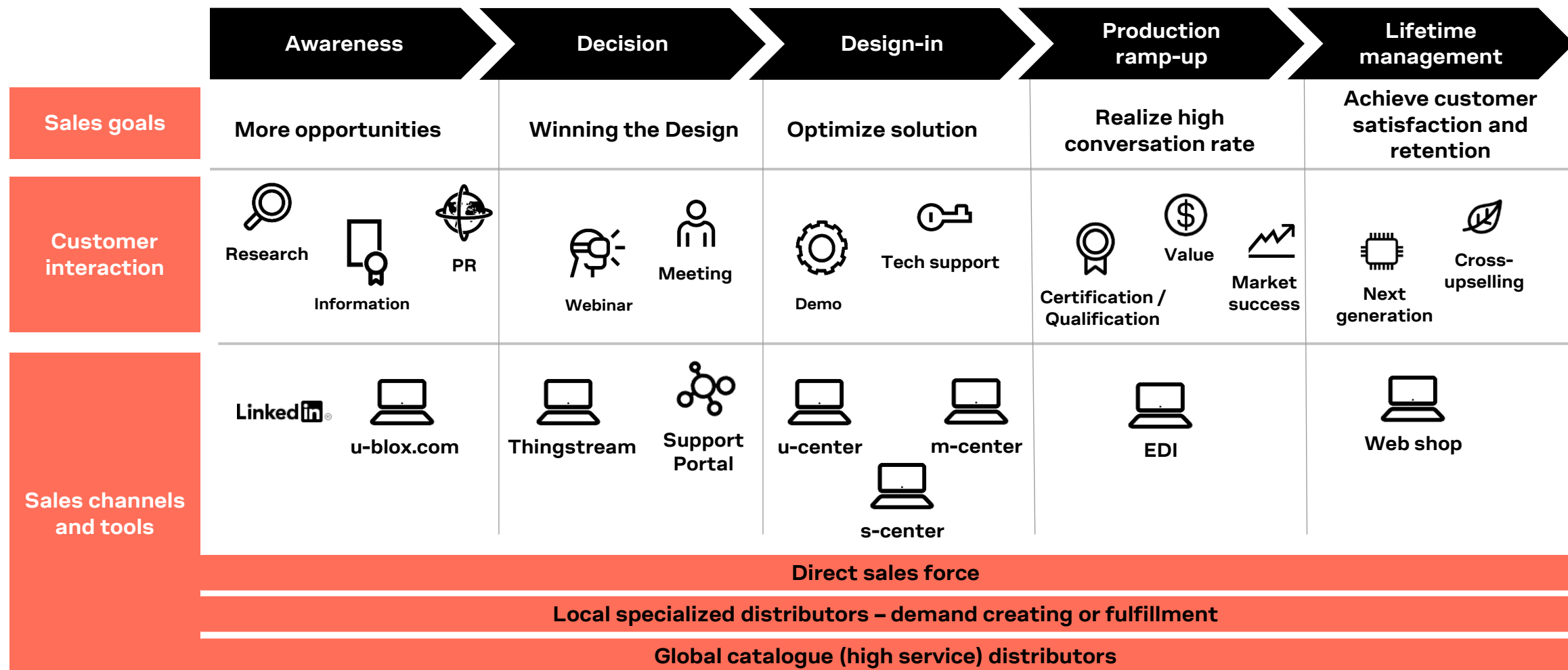
- Direct
- Demand-creating distributors
- Demand-fulfilling distributors
- High service distributors (small quantities)



A rewarding customer journey



Broad market access via various sales channels ensures sales efficiency and revenue growth



Good questions deserve good answers

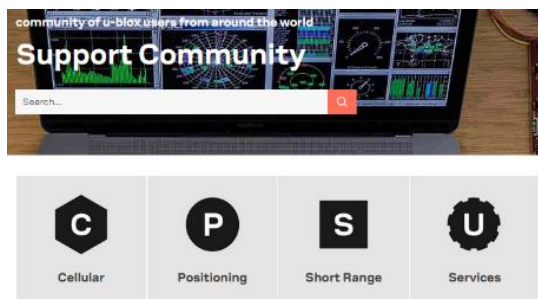
One answer serves many other customers asking the same



Technical question
during development

Link to u-blox support
community

Solutions and recommendations available
for thousands of other customers



✓ Developer forum for discussion

✓ Direct access to documentation



160K

pageviews in average
per month

3'000

new members
each month

1'900

questions asked

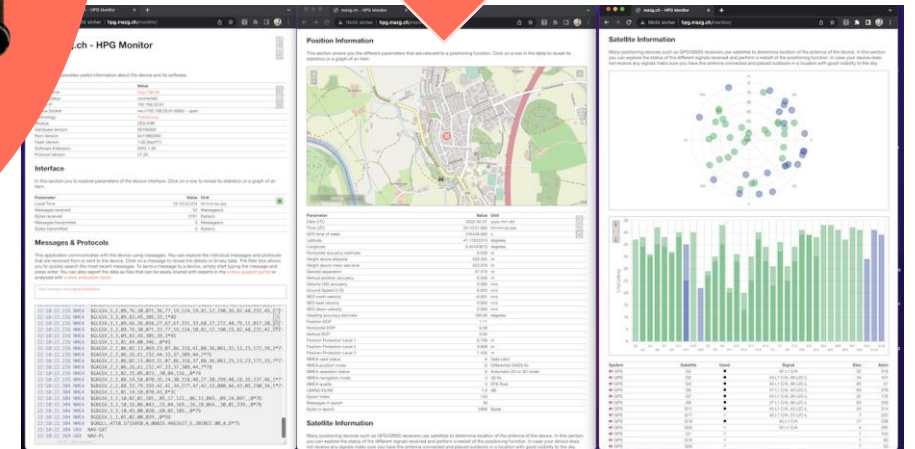


>4'000

active contributors
over one year

How customers evaluate a solution

Explorer kits and monitoring software deliver the prototype, and full insights



<https://www.u-blox.com/en/product/u-center>

High service level for long tail customer base

Innovators and makers are our market shaping customers of tomorrow



- **Fast sampling turnaround time** with high service distribution
 - Attaching to **broad innovation base**
 - **Deep access also into large accounts** (simplifying the provisioning of product samples and proto quantities)
 - Important source of feed-back
 - Vivid contributors to our forum
 - Complementing u-blox with adjacent relevant products and services towards a **full solution**
 - Providing **strong commercial** (payment terms) **and logistical services** (consignment)
- Specialized distributors serve a very large number of customers efficiently
 - Global reach

An aerial photograph of a white wind turbine in a field with concentric circular tracks. The turbine's shadow is cast long and dark across the field. The text "Distributor Digi-Key." is overlaid in large white font on the left side of the image.

**Distributor
Digi-Key.**

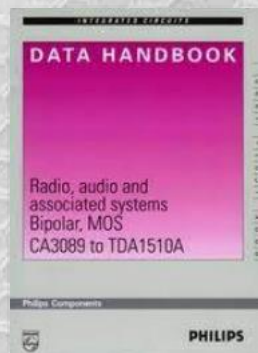
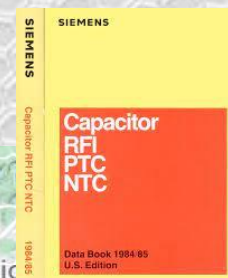
Hermann Reiter



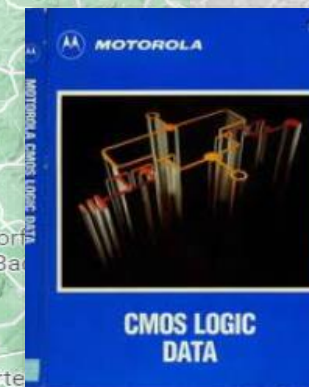
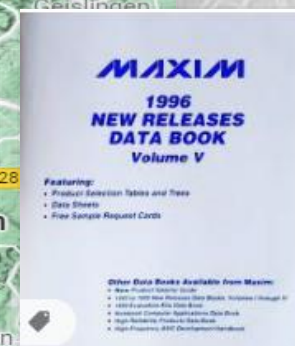
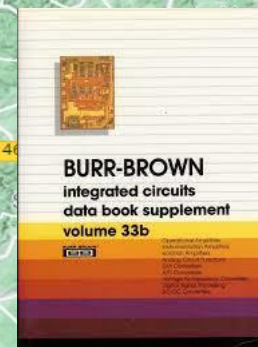
Capital Markets Day

Hermann Reiter: Digi-Key
Electronics

How It All Began for me.



Aussendienst
Vertriebsbeauftragter
Field Sales Engineer
Account Manager
Business Development

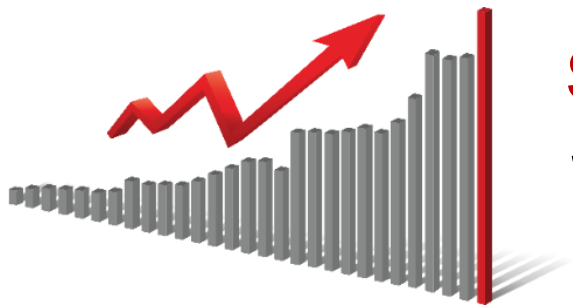


**The best place to hide a
dead body is page 2 of
Google search results**

WHO WE ARE



A Trusted Partner



\$4.7B
Sales in 2021
+64%



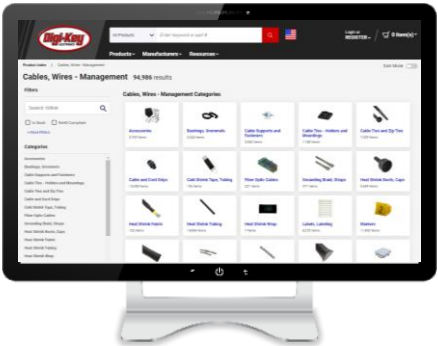
Shipment is made
within 20 minutes of order receipt



6.5M+ Shipments per year



We ship to over **180**
Foreign Countries



13M+
Line Items on
the Internet

2.8M+
Line Items
Stocked

673K+
Sites

2,300+
Manufacturer
product lines

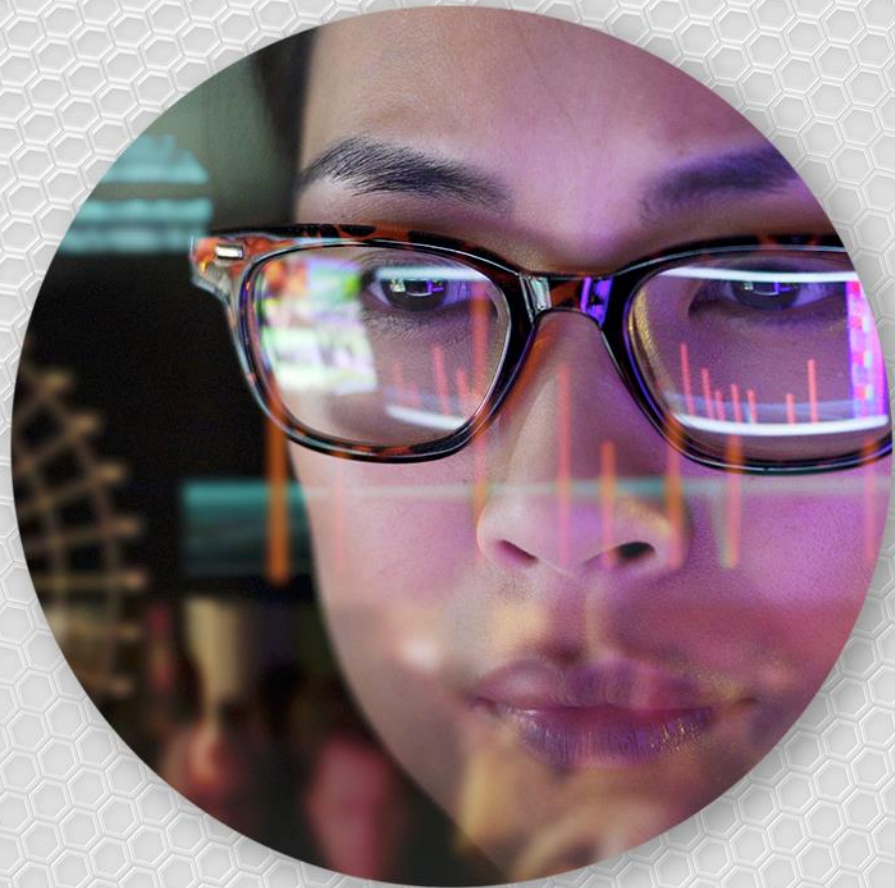
857K+

Individual Customers



2,400+
RFQ's Per Day
with
83,800+
Details

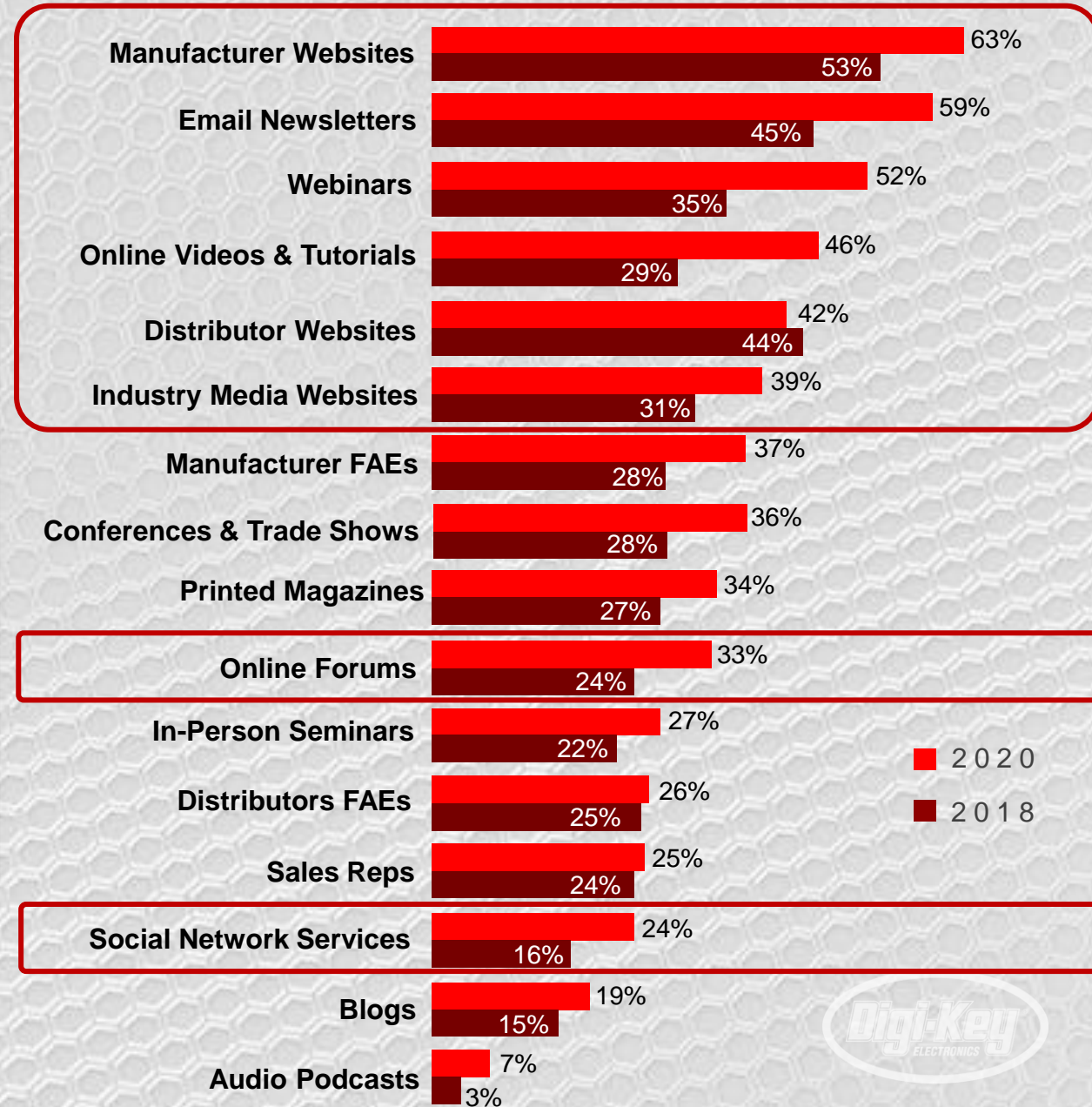
REDEFINING HIGH-SERVICE



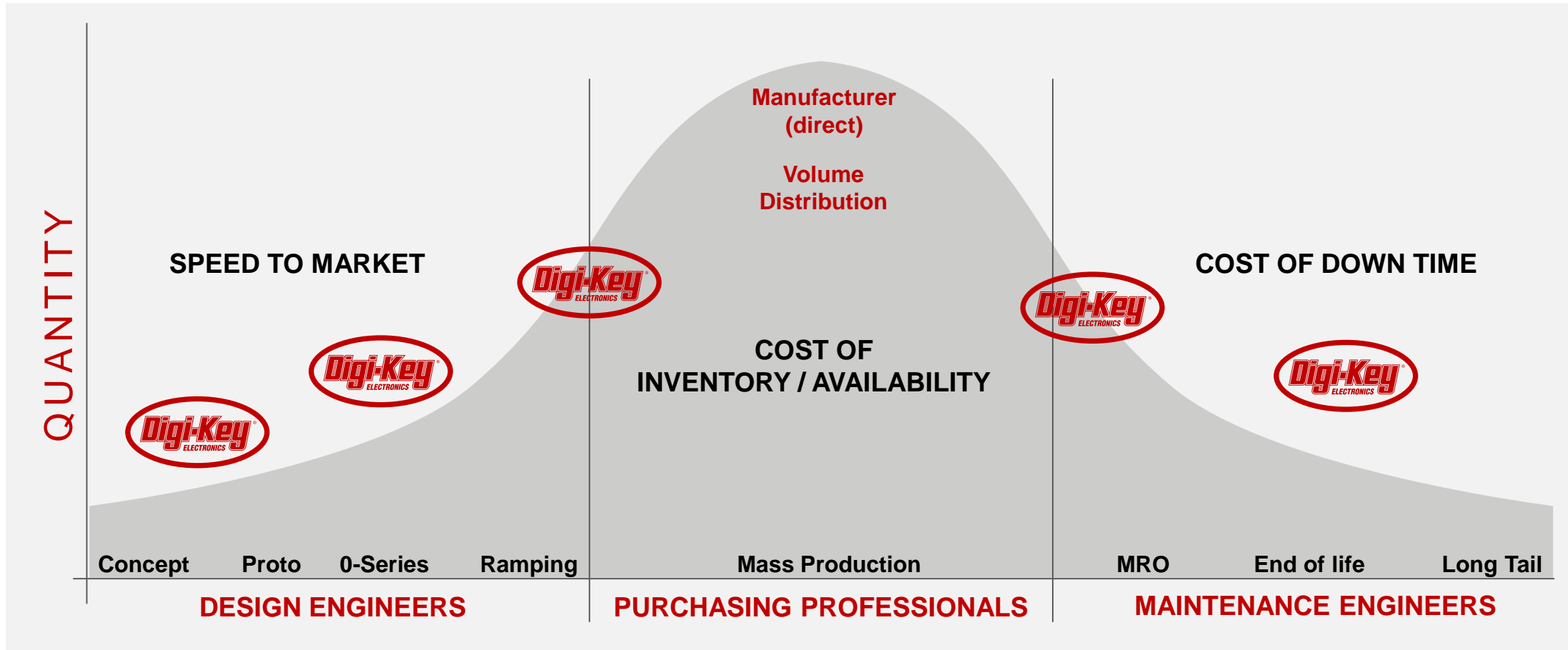
MIND OF ENGINEER STUDY



MODES USED TO LEARN ABOUT PRODUCTS/TECHNOLOGIES



HIGH SERVICE AND THE LIFECYCLE

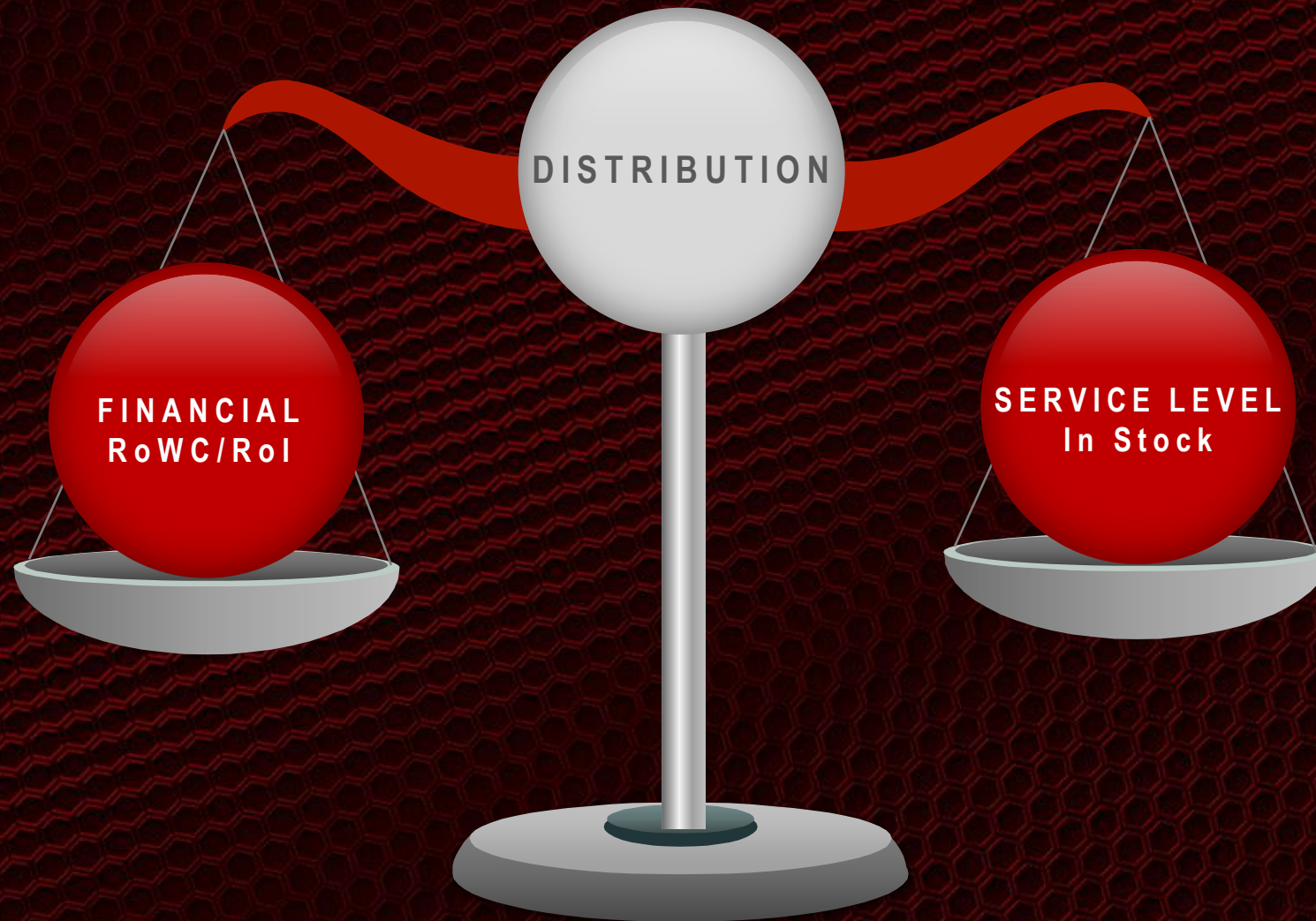


LEARN@DIGI-KEY

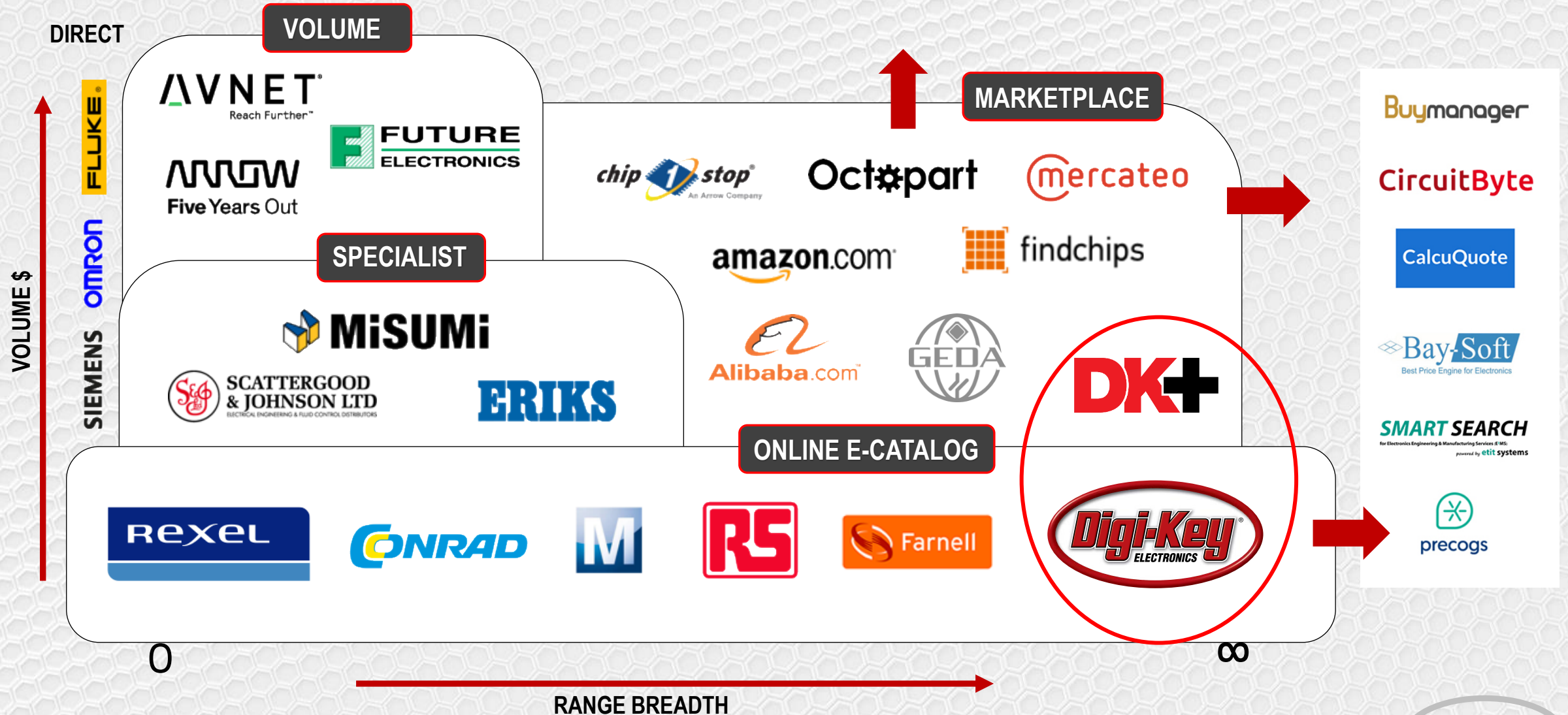


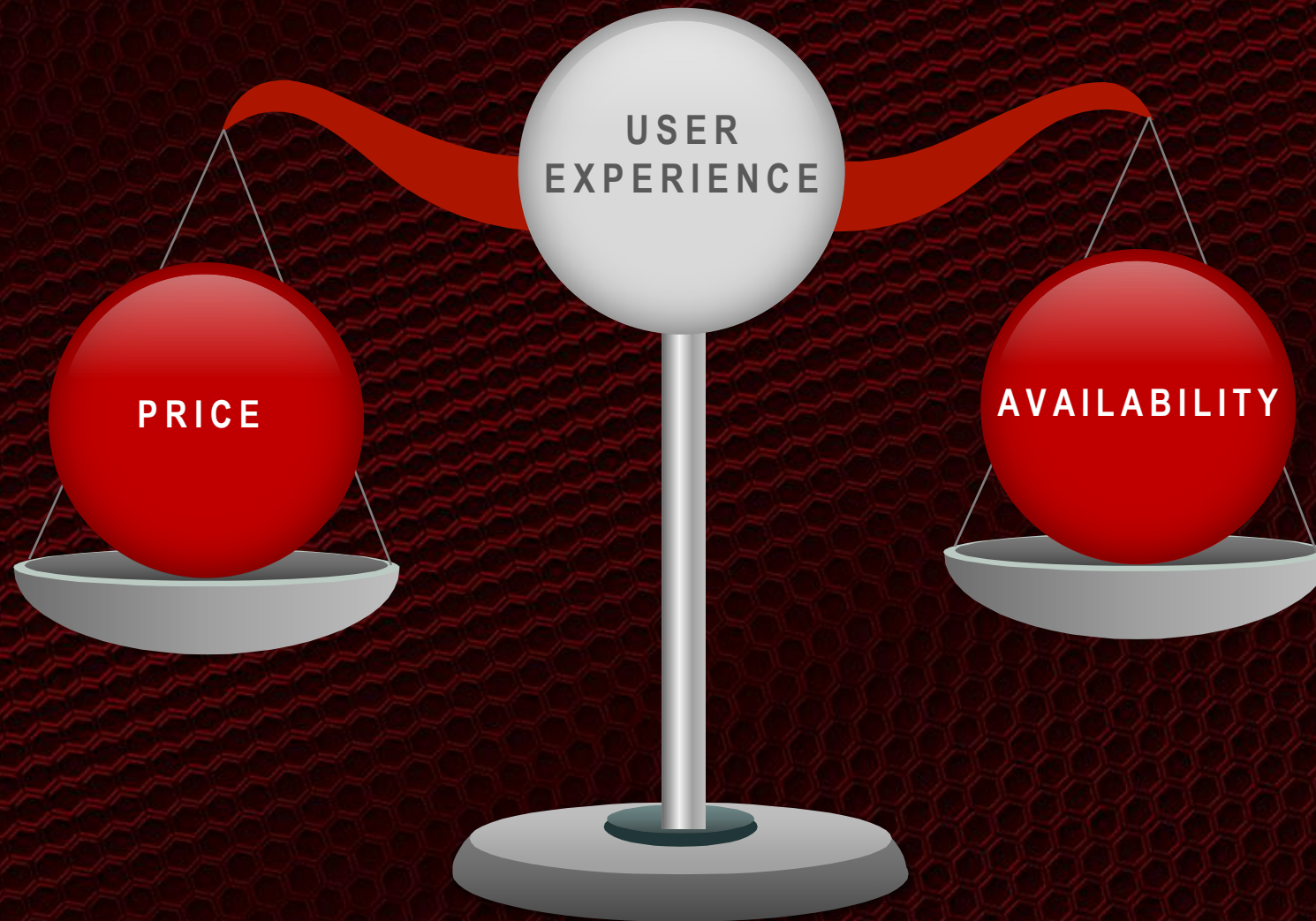
Article Library



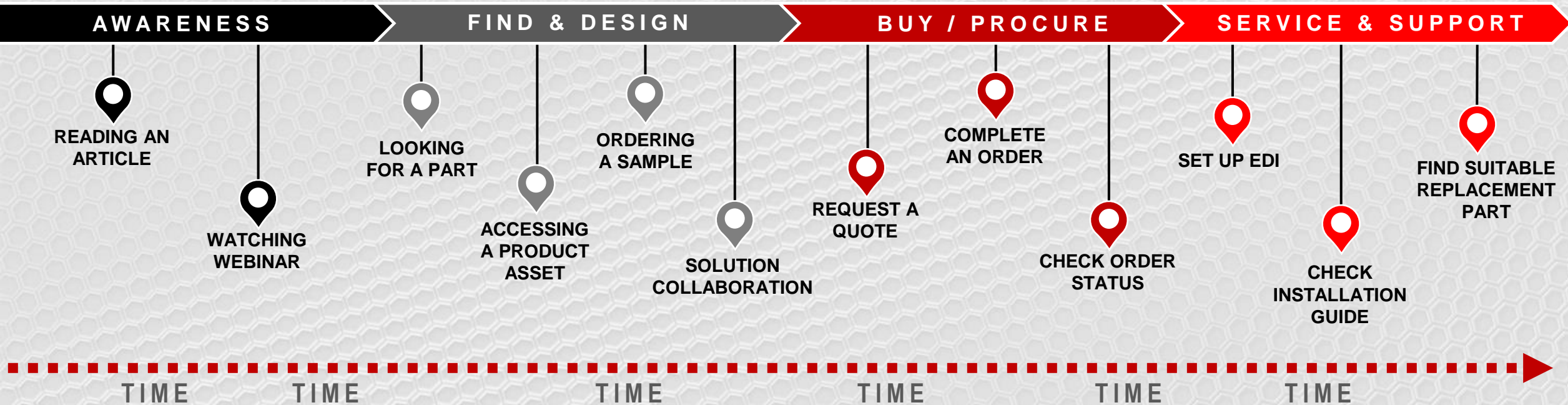


ECOSYSTEM DISTRIBUTION

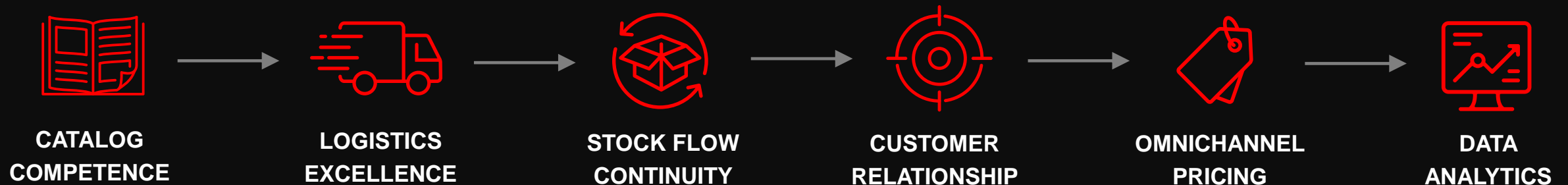




PROTOTYPE TO PRODUCTION



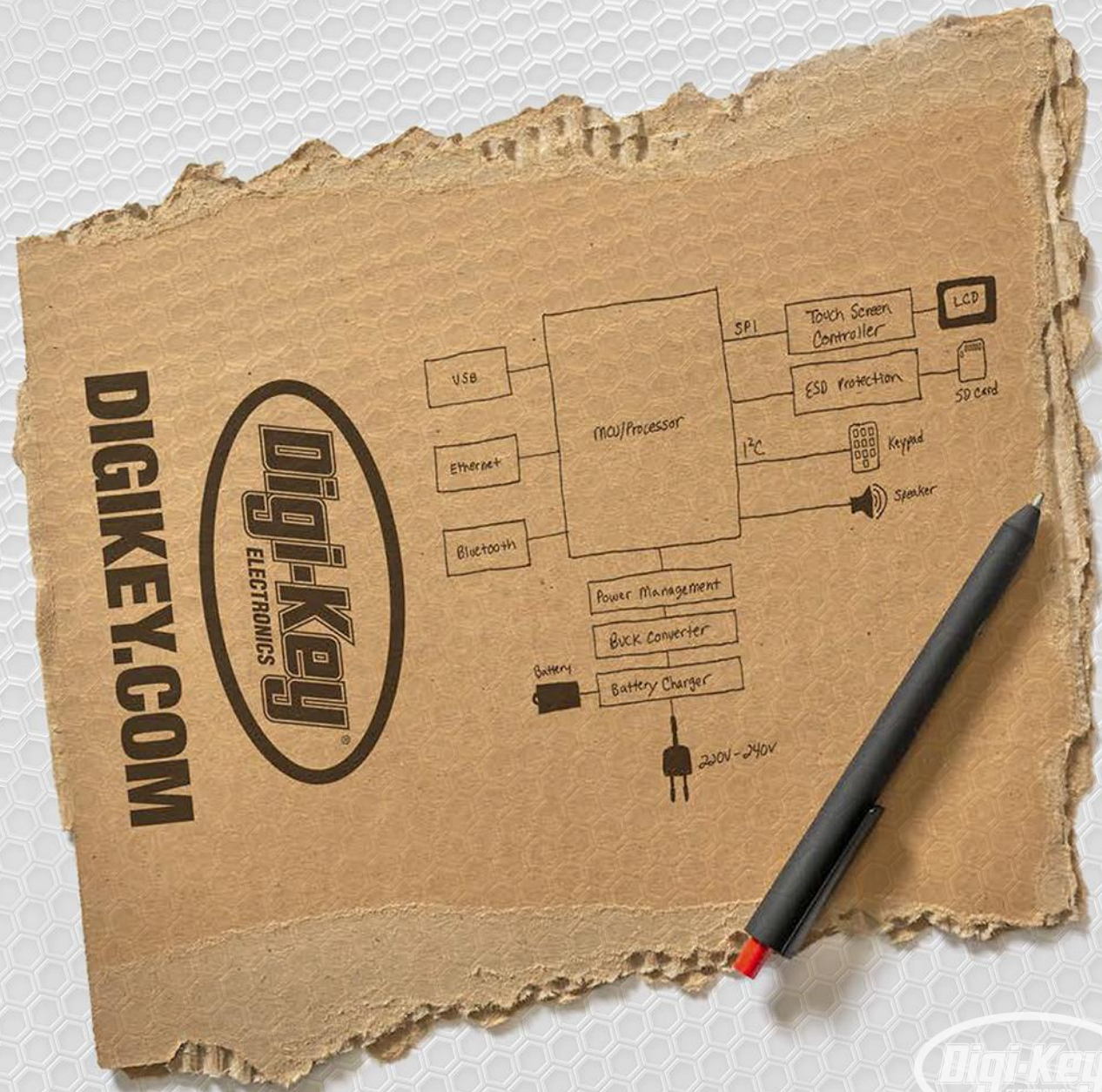
COMPETENCIES OF DIGITAL DISTRIBUTION



WHAT DOES
THE FUTURE
LOOK LIKE?



INNOVATION



PDCe

MORE
PRODUCT
BETTER
SERVICE

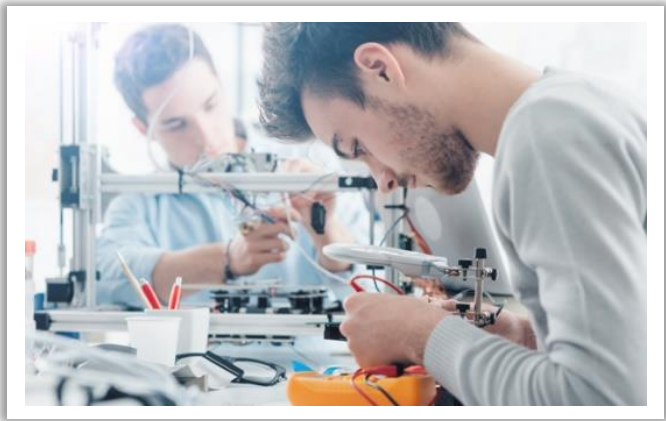


A LOOK FORWARD

WHERE IS THE
MARKET HEADED?



Design & Integration



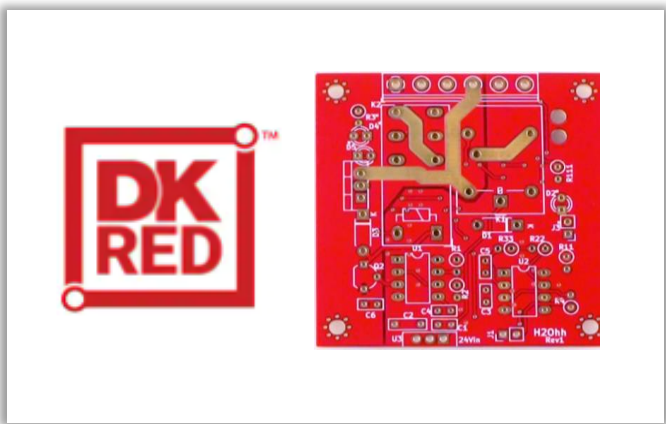
Automation & Control



Part Tracing



Custom Made PCB



IoT Cellular Data Plans



BOM Management





ONE STOP SHOP



THANK YOU!

**R&D: staying ahead
of market needs.**

Thomas Seiler

The u-blox product cycle

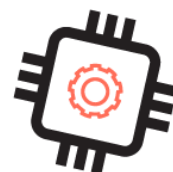
From idea creation to monetization – very long product lifetime



**1-2
Years**

Creating Ideas

Utilizing proprietary information and technology to design and solve problems in end-applications.



**1-3
Years**

Development Cycle

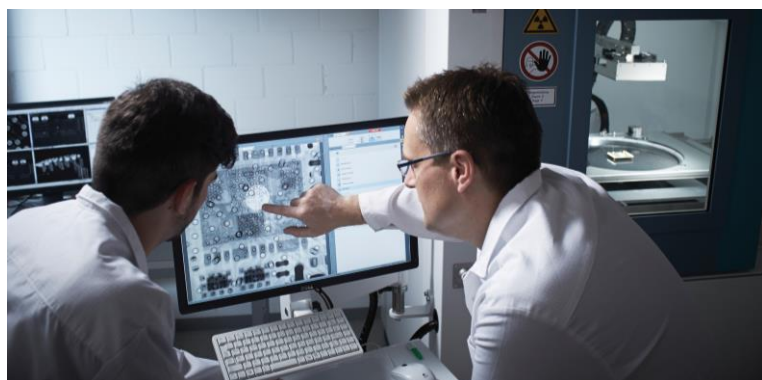
Creating and testing phase, ramping-up production.



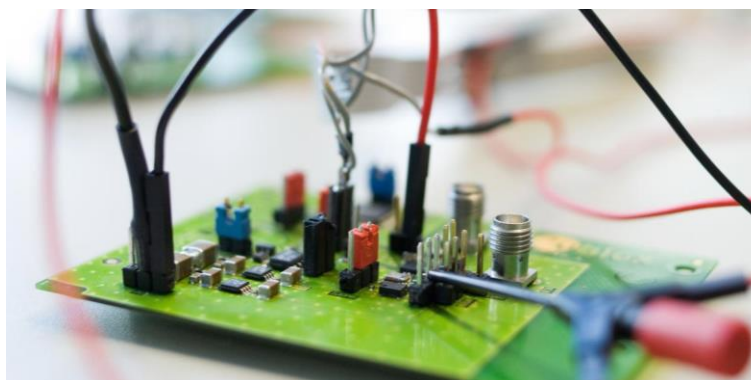
**9
Years**

Product in Market

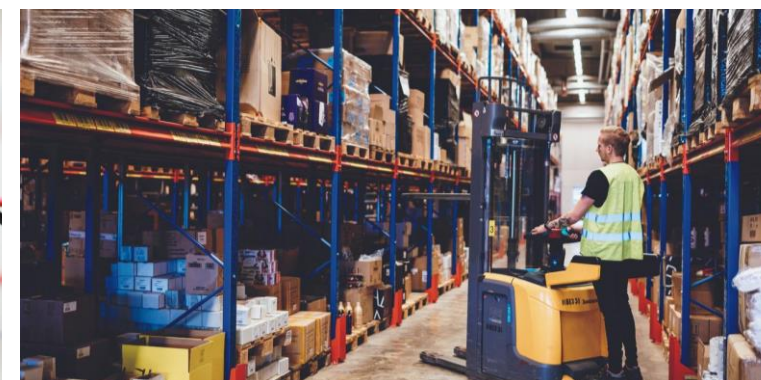
Designing-in and delivering to the market rapidly. Adapting to meet evolving market conditions.



R&D expense expensed



R&D expense capitalized



R&D expense expensed and amortized

Maintaining our growth path: 18 R&D centers

Strong footprint to attract innovation talents



18

R&D centers
worldwide



850+

engineers



CHF

100m+

annual investment
(2021)

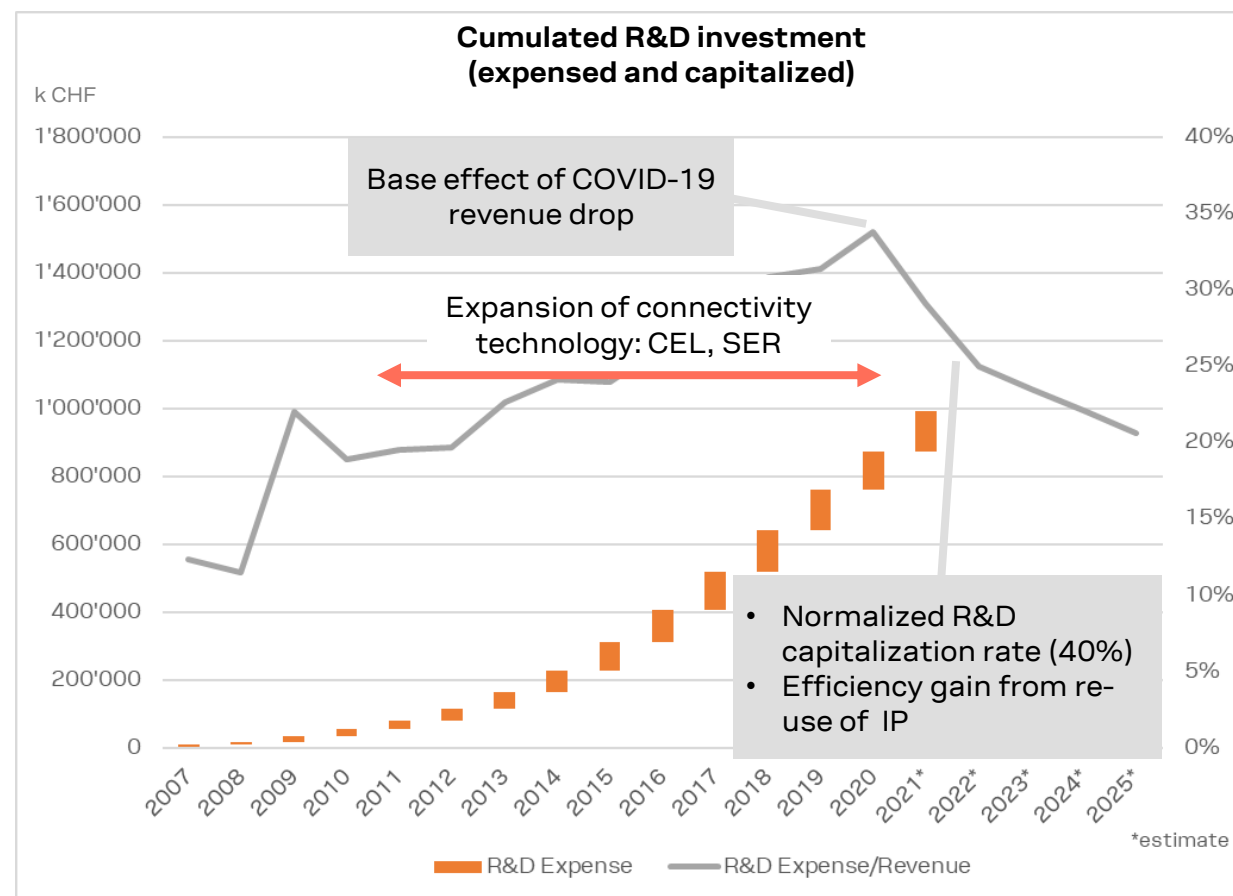


Investments in R&D paying dividends in time



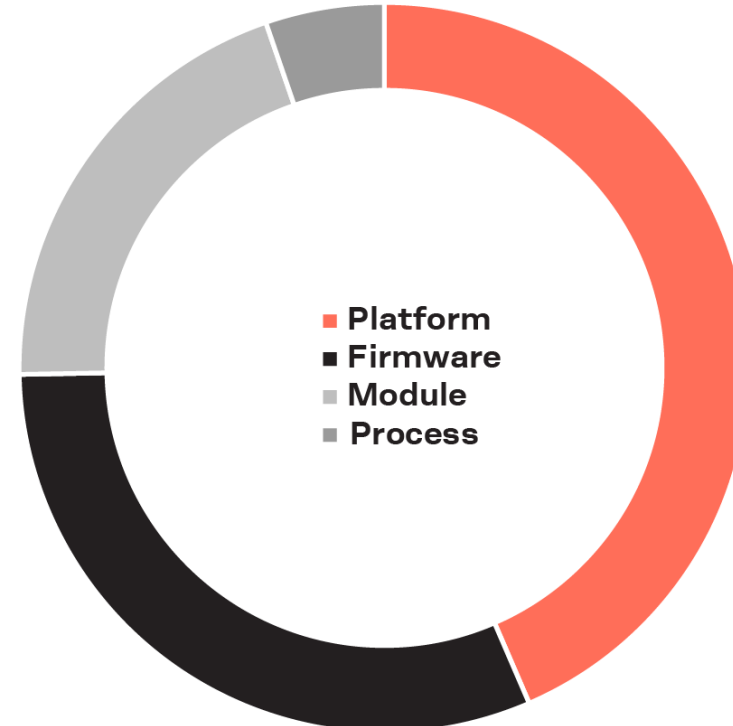
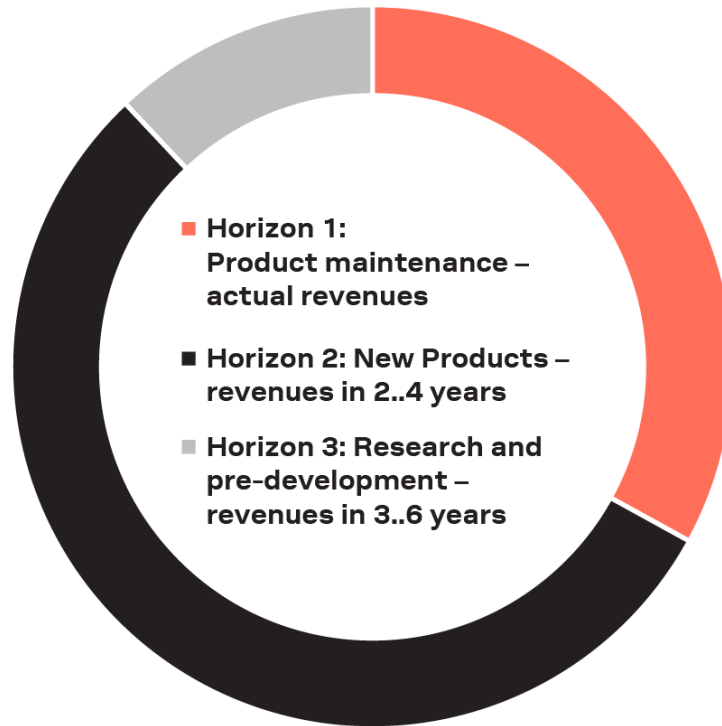
Deep technology and market IP acquired over decades

- We continue to invest in technologies that will **push the industry forward** for years to come.
- Our IP is based on **CHF 1bn investment** over the last 15 years – the intrinsic value of u-blox and the source of our competitiveness.
- We have been **first to market** with many technologies: module form factors, leading positioning performance and, most recently, services.
- R&D intensity managed to **achieve positive free cash flow, our core KPI**



u-blox capex spending

Innovation for sustainable growth propelled by focus on Horizon 2



Estimated data 2021

u-blox solution components

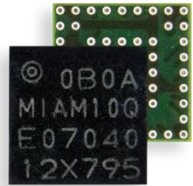
Making devices connected – from chip to cloud



Position

Precise and accurate

M10



Connect

Solid and robust

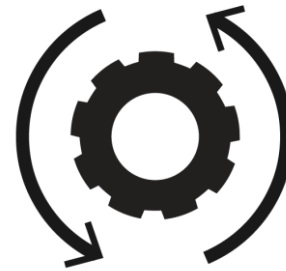
R5



Compute

Effortless at edge

u-connectXpress



Transfer

Simple and efficient

SaaS

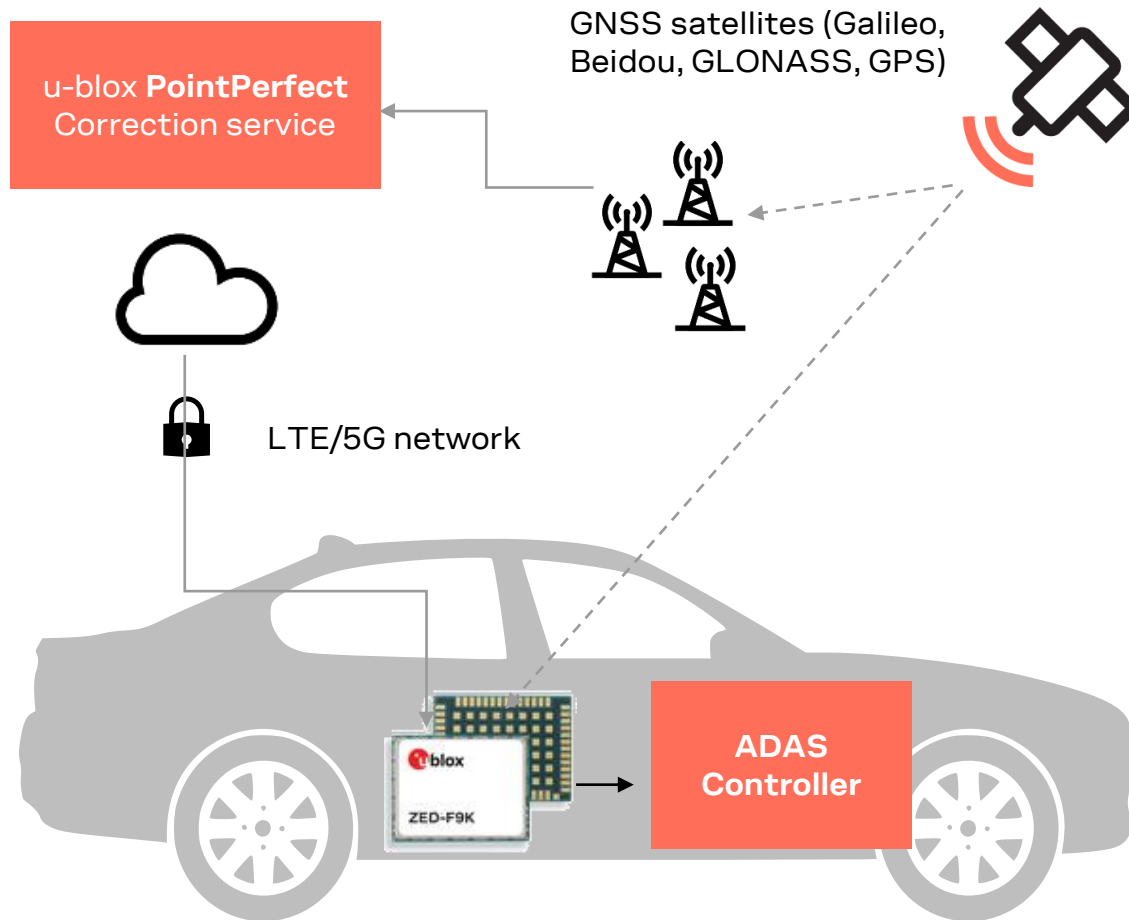


All things are safe and secure

Solutions are easy to implement

u-blox: the leader for positioning solutions

Full end-to-end solutions for assisted and autonomous driving



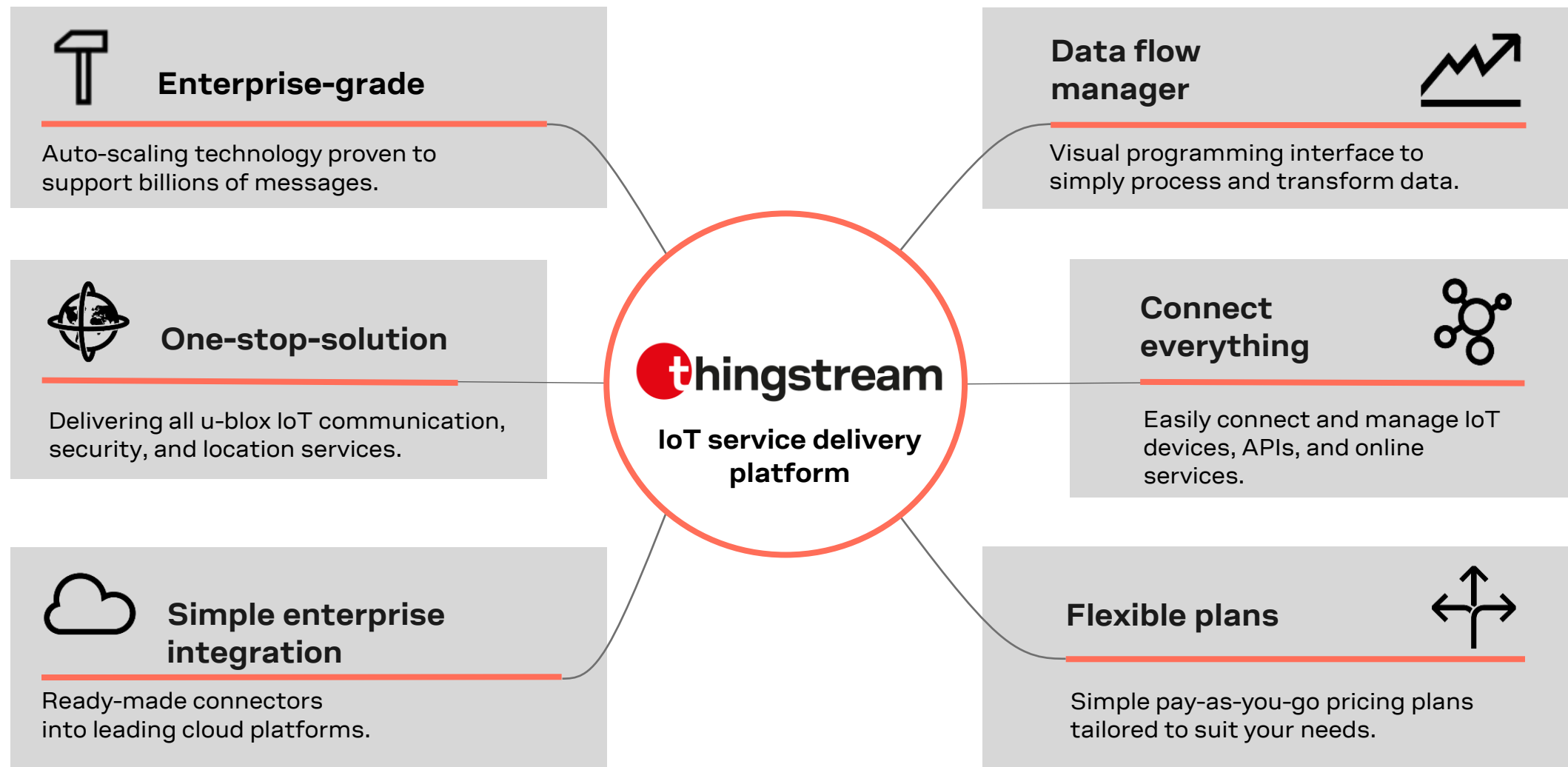
High accurate, secure, and trustable position

- **Market leading GNSS supplier**
 - 1 out of 2 vehicles has a u-blox GNSS solution
 - All positioning IP developed in house
- **Solutions already in the market** with major tier 1s for **first ADL3 vehicles**
- **A complete portfolio of chipsets and modules** spanning from standard precision to high precision and integrity together with **correction and assistance services**
- High quality and reliability
 - Following automotive ISO qualification
 - Structured product life cycle

Thingstream.io - IoT service delivery platform



All u-blox services are delivered via Thingstream



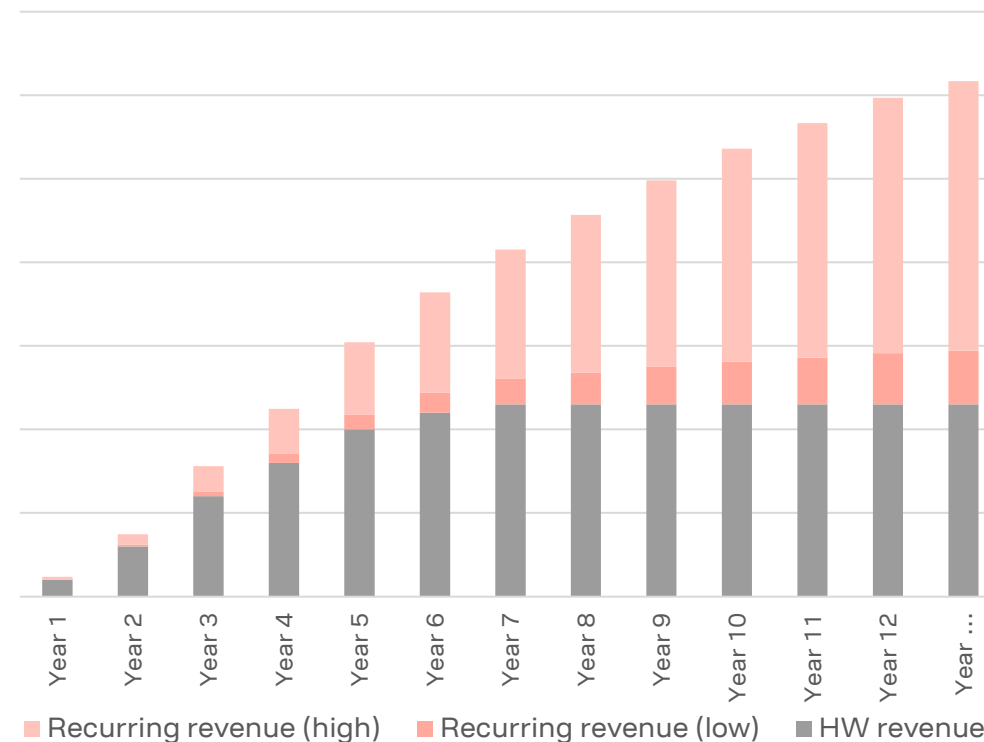
Thingstream.io – economics of recurring revenues



Cumulative revenue build-up as hardware is continually installed

- **Thingstream.io** platform is for all our services
- Essential for further innovation of our value proposition
- Enables u-blox to expand recurring revenues with services for
 - IoT Communication-as-a-Service
 - IoT Location-as-a-Service
 - IoT Security-as-a-Service
- Strong cumulative effect on recurring revenue with effect of prolonged revenue stream
- Recurring project revenue can achieve 20% to 100% of underlying hardware revenue over lifetime

Service revenues cumulating over lifetime of underlying hardware

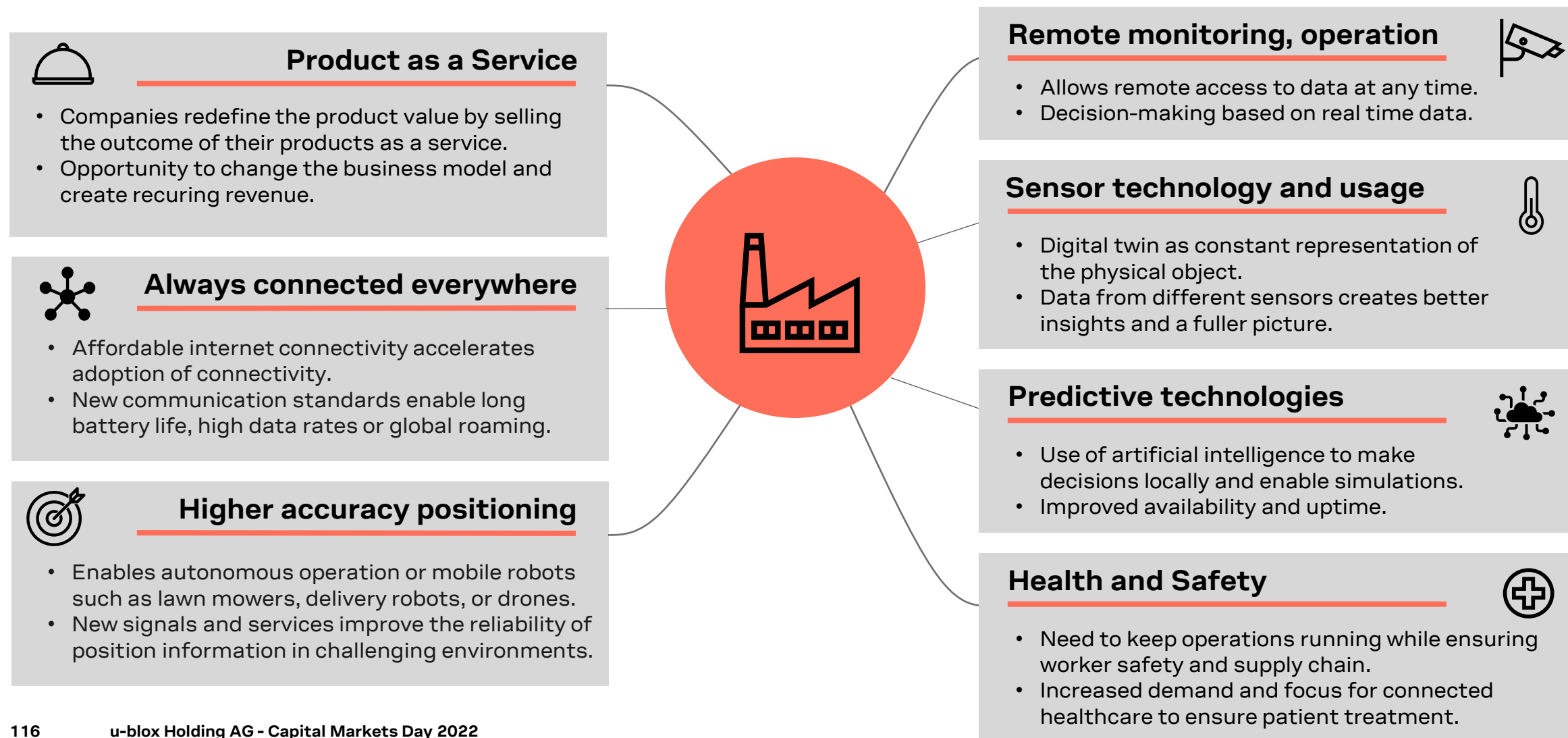


Revenue profile of a typical use case, with cumulating hardware revenues and service subscriptions

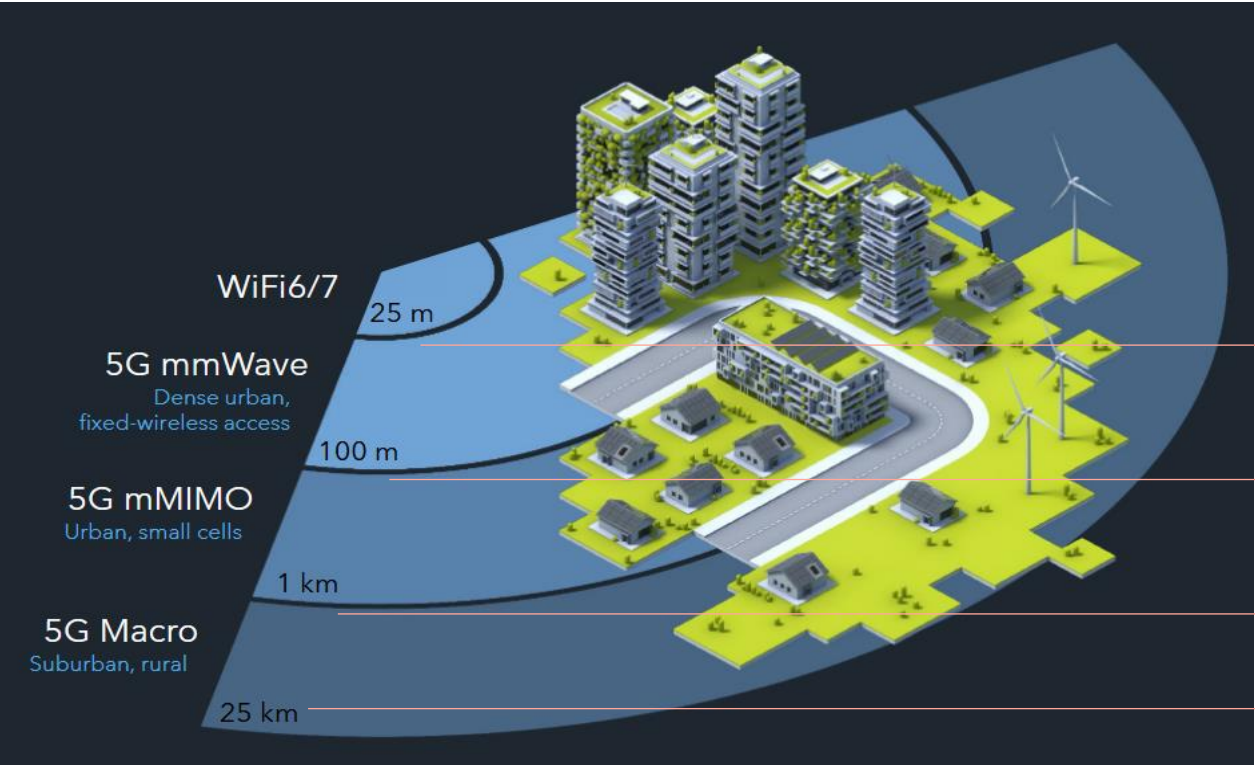
**Taking advantage
of strong market
momentum.**

Stephan Zizala

Industrial applications will become connected and autonomous



New standards in communication infrastructure create new demand for our products



Picture: NXP

u-blox product applied	
Infrastructure	Client
Positioning	Wi-Fi 6 Wi-Fi 7 Multiradio
High precision Timing	LTE - new Cat
High precision Timing	LTE - new Cat
Timing	LTE - new Cat

u-blox is leader in timing solutions for base stations and data networks

Hand-picked hardware

Selected by quality – not the price



Connectivity Module

The u-blox Sara 412 is a Multi-band NB-IoT / LTE-M EGPRS module with a 2G fallback option supporting nearly global connectivity plus jamming detection.

Bluetooth Low Energy

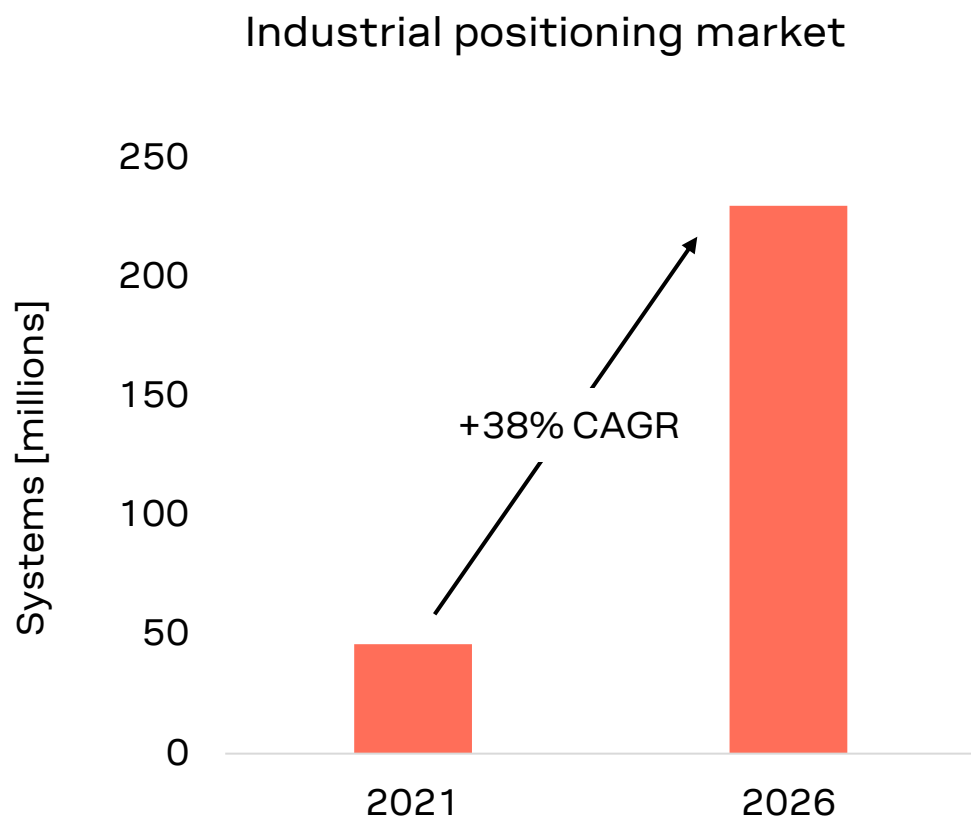
The ublox Nina-B112 module is a small stand-alone Bluetooth® low energy module featuring Bluetooth 5, a powerful Arm® Cortex®-M4 with FPU, GATT client and server, beacons and NFC.

GNSS Location module

The u-blox MAX-M8 module utilizes concurrent reception of up to three GNSS systems for most reliable positioning including minimal acquisition times while maintaining low system power. It supports message integrity protection, geofencing, and spoofing detection.

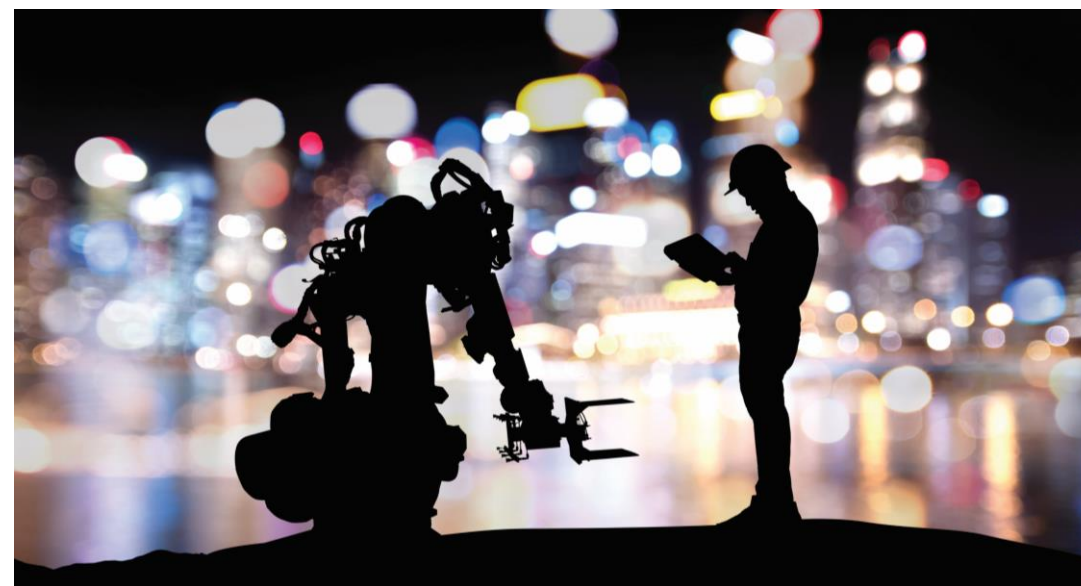


Strong market momentum in the industrial market, especially for positioning solutions

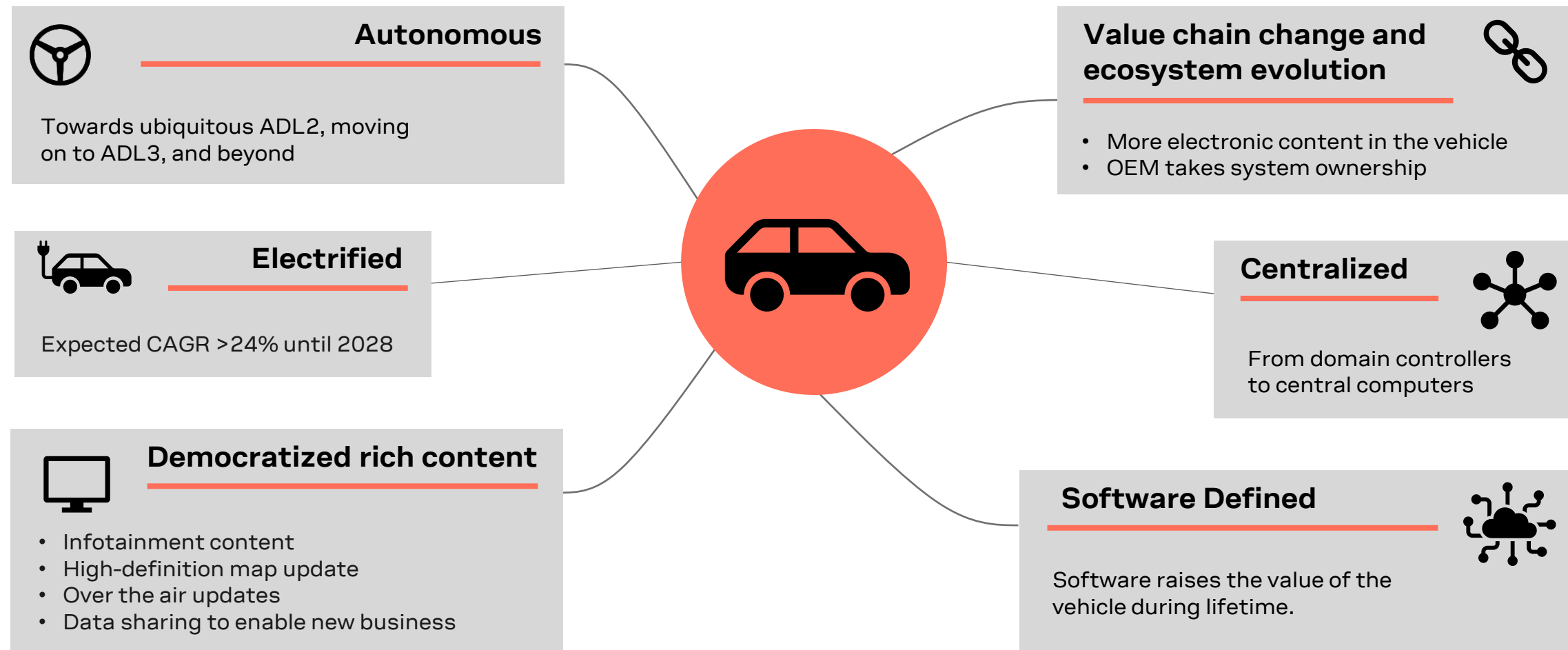


Sources: ABI, TSR, OMDIA, u-blox

- Positioning determines origin of information
- Devices that were previously stand-alone become connected
- Wide base of applications follow the trend

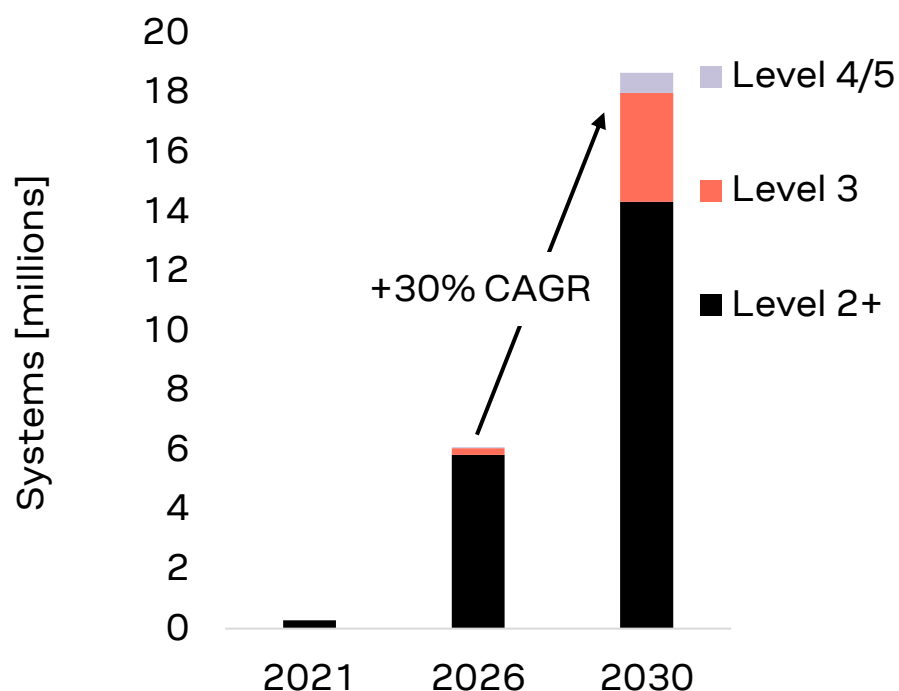


The car of the future will be autonomous, electric and increasingly shared



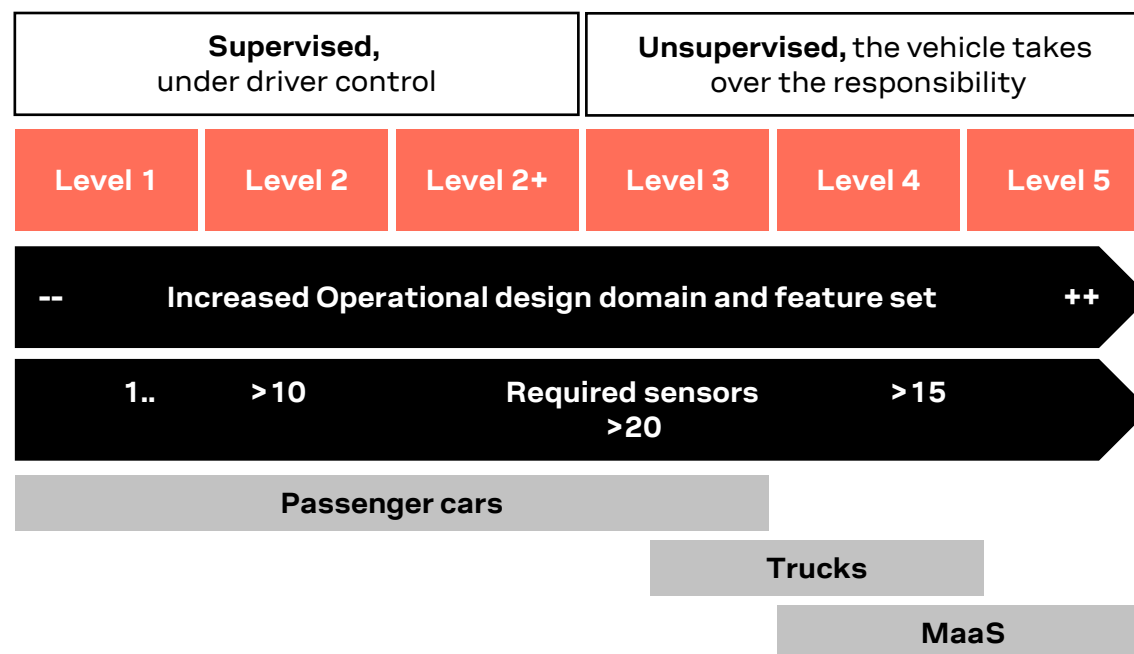
Strong market momentum of higher level of autonomous driving starting now

Car production with autonomous driving level 2+ and above



Sources: ABI, TSR, OMDIA, u-blox

- Level 2+ and above benefits from high precision GNSS
- Significant growth with autonomous driving Level 2+
- Level 4 and Level 5 deployments are dominated by «Mobility as a Service (MaaS)»
- Precise, reliable, safe positioning solutions will contribute to electronic value growth per car



GMV partnership

Market ready end-to-end safe positioning solutions



The Fact:

- Functional safety has become indispensable in automated and autonomous driving vehicles.

The Problem:

- Currently, a significant amount of effort must be applied to develop and integrate hardware and software from several vendors for a functional safe positioning solution.

The Solution:

- We are partnering with GMV to offer the leading functional safe positioning solution, comprised of a GNSS receiver, safe positioning engine, and the corresponding safe augmentation service.

Customer benefits:

- Customers will save effort and decrease time-to-market with a proven functional safe positioning solution.

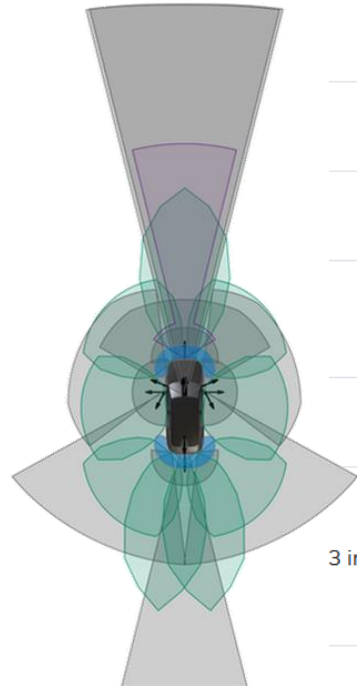


u-blox partnering with Nvidia for autonomous driving

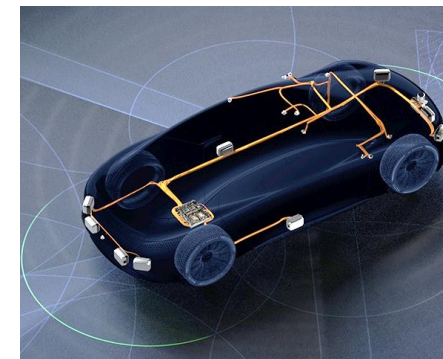


GNSS sensor in reference design

Hyperion 8.1 Sensor Specifications



Sensor Qty & Type	Function	Details
8 exterior cameras	Wide & tele vision	Sony IMX728, 8.3Mpx
4 exterior cameras	Fisheye near vision	Sony IMX623, 3.0Mpx
6 radars	Corner & side sensing	Hella Short Range Radar
3 radars	Front & rear sensing	Continental 1x Imaging and 2x Long Range Radars
1 lidar	Front redundant sensing	Luminar
3 interior cameras	Driver monitoring system	1x OVT - OV2311, 2Mpx
	Occupant monitoring system	2x OVT - OX05B1S, 5Mpx
2 IMUs	Vehicle odometry detection	1x Continental SC13SI, 1x Bosch MMP
1 GNSS	Vehicle position detection	U-blox



- **What is it**
“NVIDIA DRIVE Hyperion™ is an end-to-end, modular development platform and reference architecture for designing autonomous vehicles (AVs).”*
- **u-blox integration in the platform**
“The software for these sensors is integrated into NVIDIA DRIVE SDK and works out-of-the-box.” *
- **Benefit for the customer**
Reduction of development effort, time and risk
- **Benefit for u-blox**
Multiplication effect leading to more opportunities

Source: [NVIDIA](#)

Li Auto's new Li L9SS

u-blox ZED-F9K high-precision GNSS module to enhance assisted driving



- Launched in June, the Li L9 comes equipped with a full-stack, self-developed Li AD MAX smart driving system with Navigation on ADAS (NOA) functionality.
- Driving assistance system recognizes traffic lights, pileups, and road shoulders and 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.

ESG: contributing to a sustainable world.

Thomas Seiler

The IoT and its impact on sustainability

We are shaping IoT with responsible business practices

- The **Internet of Things (IoT)** is emerging as a **powerful enabler** in many application domains such as water and energy management, environmental monitoring, health, smart cities, smart industry and supply chain management.
- The IoT has the potential **to address some of the most acute human, economic and environmental needs**. It can also directly contribute to achieving the targets in the United Nations Sustainable Development Goals (SDGs).
- u-blox has been a signatory of the United Nations Global Compact (UNGC) **since 2012**.



Integrating ESG into our strategy

Our sustainability potential is exponential



2021 Highlights



Fifteen-year-old Jan-Ole invented a 'Klimabox' for his high school classroom

We extended the number of chips produced on one wafer by a factor of 3 saving 66% in energy and materials

NaviBlind enables visually impaired people to navigate independently

2,569 young deer were saved from a painful death



u-blox saved 60,480 tons of CO2 over 10 years through ADES in Madagascar

91% of our modules are produced with renewable energy

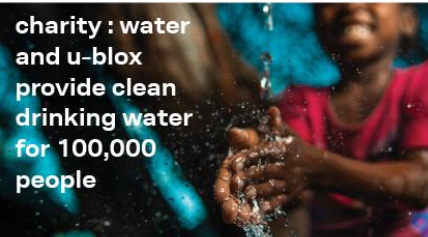


336 children were fed and educated in 2021 at Mettoh school in Ghana, which has been funded by u-blox since 2013

In Europe, 1500 students attended 20,000 days of school thanks to No Isolation's AV1 robotic avatar



Water has become available to people in Uganda, India, and Ghana thanks to the India Mark II hand water pump developed by charity, which uses SARA-U201 cellular modules and MAX-8C GNSS modules donated by u-blox



charity : water and u-blox provide clean drinking water for 100,000 people

94% of employees completed u-blox Code of Conduct training

Our 5 engagements



Business Ethics



Employees



Environmental responsibility



Supply chain responsibility



Environmental responsibility

Supported SDG

3, 5, 8, 16

4, 5, 8, 9, 11

3, 12, 16

3, 12, 16

3, 4, 5, 10, 11

[u-blox Sustainability Report 2021](#)

Designing a R&D process for a more sustainable world



We are committed to ensuring u-blox products are produced responsibly

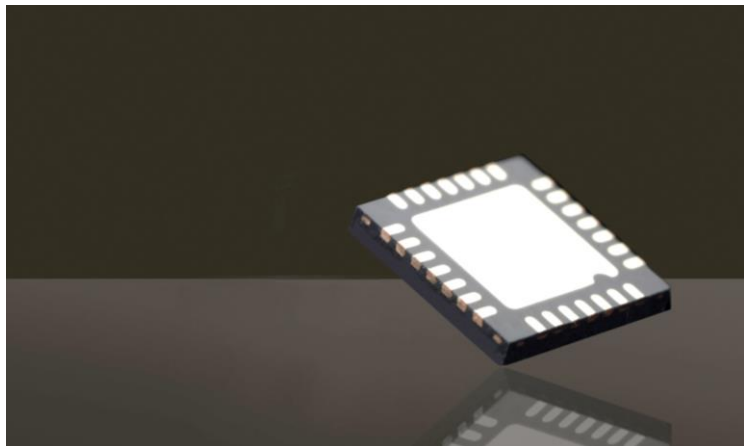
- At u-blox, we believe that **component longevity** makes sense. Many of our customers' products are manufactured to last and remain in use for more than a decade. Components, therefore, need to be robust, easy to maintain, and, where required, continue to evolve with Firmware Over The Air (FOTA) after they leave the factory.
- Long before our products are shipped to market, the u-blox R&D team has invested **significant IP and sustainable consideration into the value chain** with product design, wafer optimization, testing and assembly.

“Through miniaturization, in 2021, we tripled wafer capacity - saving 66% on energy and materials.”

Our technology greatly helps to reduce CO₂ emissions



Huge gain factor: 10⁶



Per u-blox 8 chip

- +50 grams CO₂

(for manufacturing)



Per 40-ton truck

- -50 tons CO₂

(per year)

Why fleet management systems strongly reduce CO₂ footprints:

- Optimized routing
- Predicting traffic
- Avoid idling, speeding, harsh braking
- Preventive maintenance

No weapon nor weapon systems



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

One of the central pillars of the u-blox Code of Conduct is our position on the non-integration of our products into weapons and weapon systems. This policy is in place since 2002.

- **We do not sell products when the intended use is for integration into weapons or weapon systems:**
 - 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
- **No sale to trade embargoed countries**
 - u-blox does not sell into: Iran, North Korea, Russia, the territories occupied by Russia in Ukraine, Belarus, Sudan, Cuba, and Syria.
- Guidelines are constantly updated
- Regular training of employees

FY 2022 guidance and longer-term ambitions.



Thomas Seiler

Guidance 2022

Strong order book – revenues continually expanding



- **Continued expansion of demand**
 - Content extension in automotive
 - Expansion of industrial IoT
 - Healthy ramp-up with new products
- **Supply constraints for electronic components to gradually ease**
- **Record high orderbook**

CHF	FY 2021 (adjusted)	Guidance 2022 ^{(1) (2)} (adjusted) as of 11 Mar 22	Guidance 2022 ^{(1) (2)} (adjusted) as of 30 May 22	Guidance 2022 ^{(2) (3)} (adjusted) as of 19 Aug 22
Revenue growth	+26.9%	+21...32%	+27...39%	+46...54%
EBITDA margin	17.4%	16...18%	17...21%	22...25%
EBIT margin	8.5%	8...10%	10...14%	16...19%

¹⁾ Exchange rate assumptions for 2022: Average rate of 2021 (USD: 0.914, EUR: 1.081, GBP: 1.257)

²⁾ Changes as compared to FY 2021

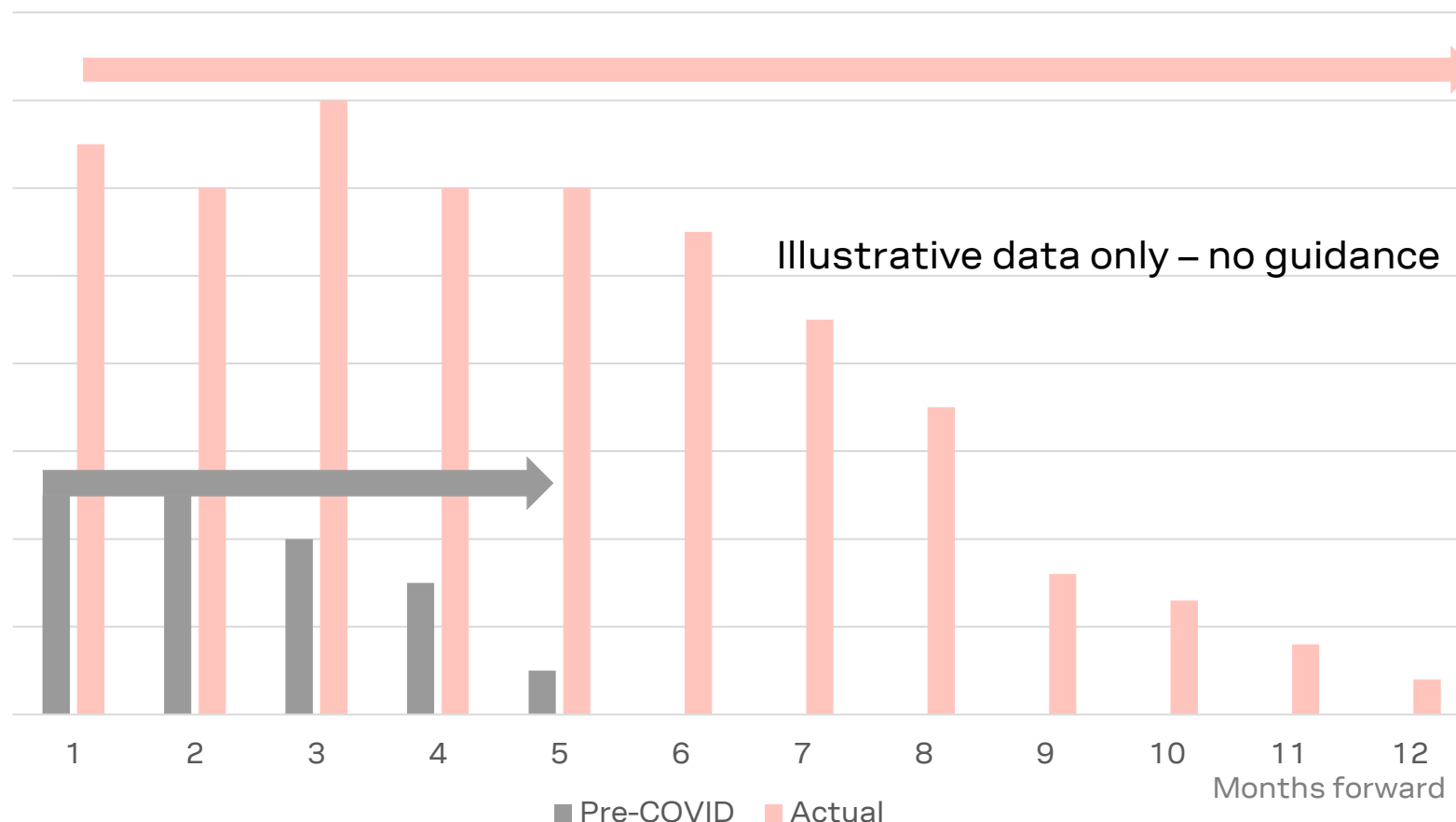
³⁾ Exchange rate assumptions for H2 2022: Average rate of H1 2022 (USD: 0.944, EUR: 1.032, GBP: 1.226)

FX-sensitivity against CHF:

+10% of	USD	EUR	GBP
Revenue	+ 9%	+ 1%	0%
EBITDA	+ 16%	0%	-2%
EBIT	+ 22%	- 1%	- 3%

Order book and visibility

Strong extension of order value, and long-term visibility



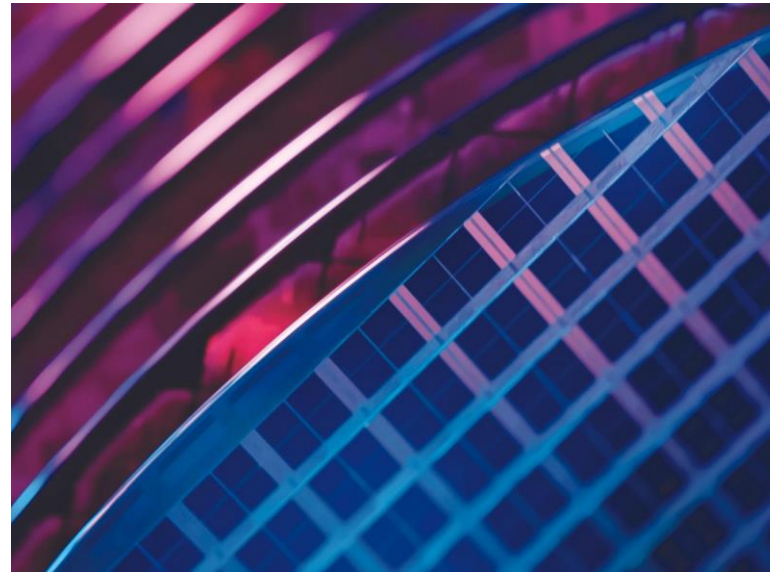
- Lead times now 8 to 12 months
- Orderbook partly secured with NCNR orders
- No double ordering – our products occupy high switching cost at customer (not a commodity product)
- Customer inventories to re-balance as component availability improves

Component supply still constrained

Fabs for critical components still overloaded



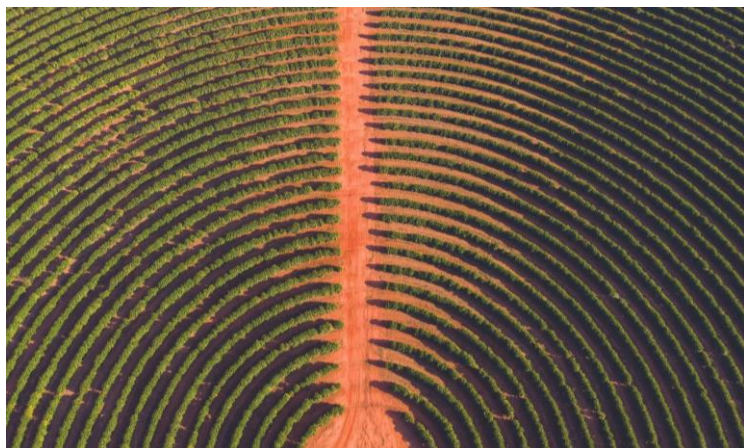
- Our chips are mixed signal – analog and digital combined
- Such chips are manufactured with trailing edge chip technology (line sizes >28 nm)
- Only one chip platform uses 28 nm - capacity build-out noticeable



- Full digital chips for processors and memories use leading edge chip technology below 28 nm (5 to 28 nm)
- Each technology uses dedicated equipment – capacity swaps not possible with trailing edge technologies (130 to 28 nm)

Key strategic initiatives

Strategy on track



Broadening sales channels

- Tapping more market potential
- Increase share of wallet



Expanding product offer

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



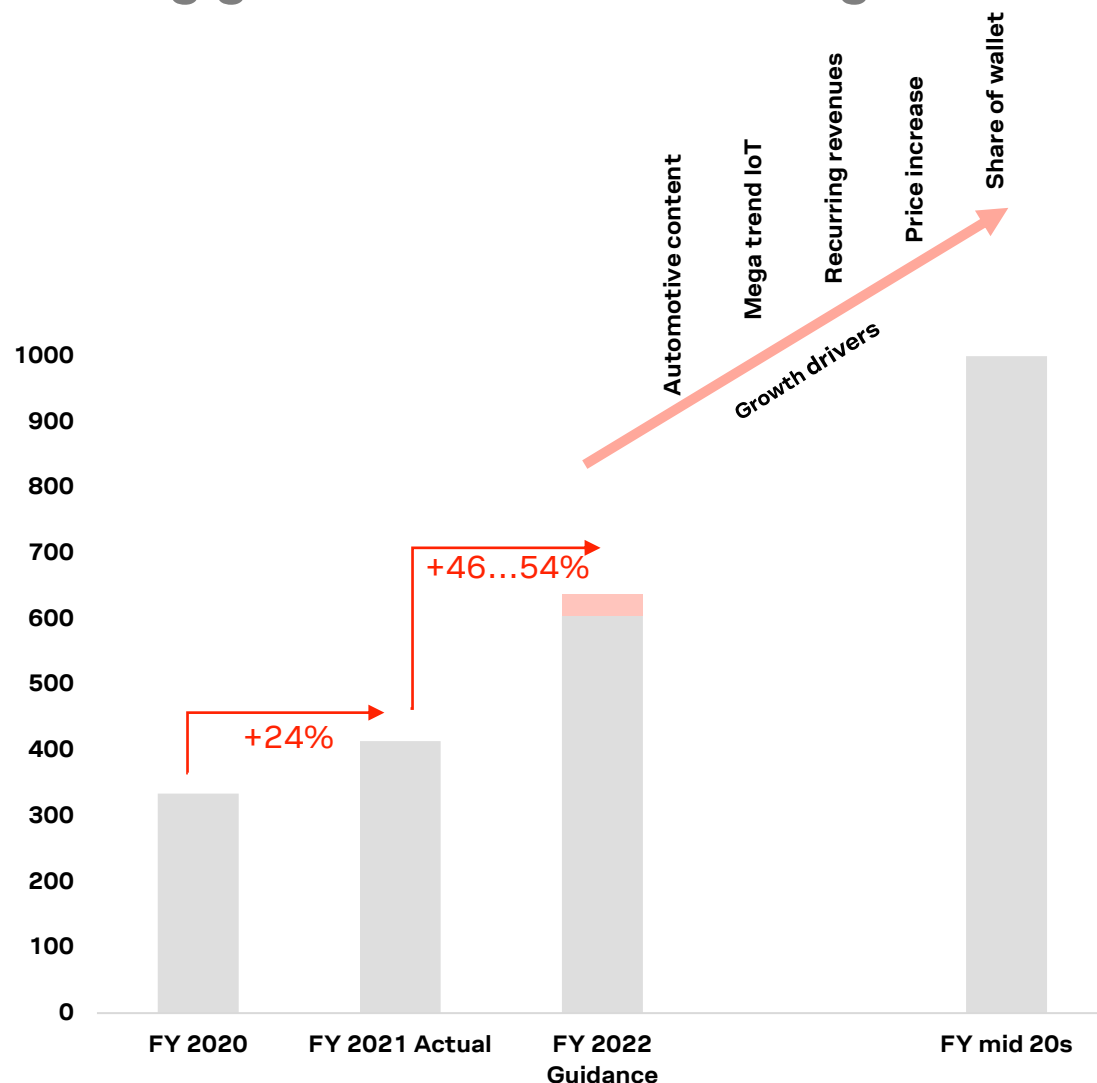
Autonomous driving

- Safe positioning engine
- Correction data

Continued revenue expansion in sight



Strong growth drivers from mega trends and solutions offering



Only illustrative – picture does not provide for a mid-term guidance. Guidance 2022 range indicated by red bar

- Continued expansion of digitization in the car
- Low power solutions allow expansion of wearables
- Ongoing trend for smart industrial devices
- Acceleration from expanded solution capabilities
- High precision positioning and functional safety create basis for sizeable recurring revenues

Key investment theses

Investments for the future



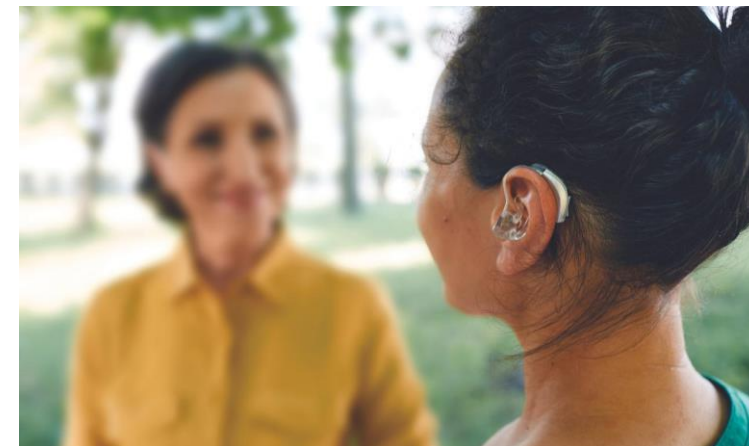
Market leader in industrial IoT with strong revenue growth

- Solution capability
- Partner with customer



Proven financial model with long-term resilient model

- High innovation
- Fabless

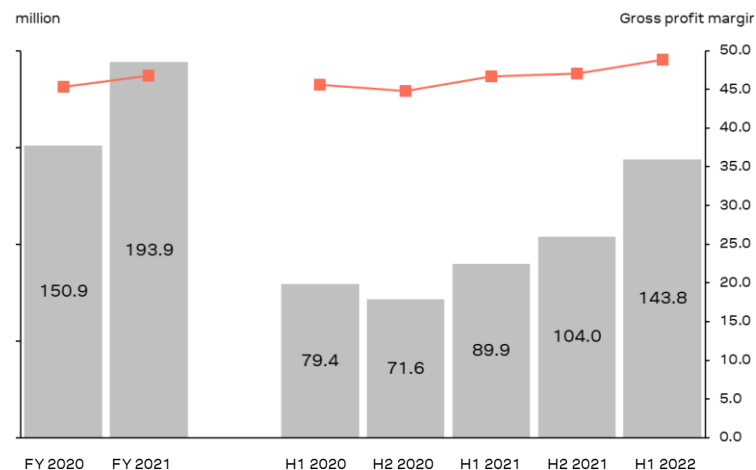


Reliable dividend policy with robust FCF

- Gross margin robustness
- Operating leverage with fabless business model

Financial ambitions

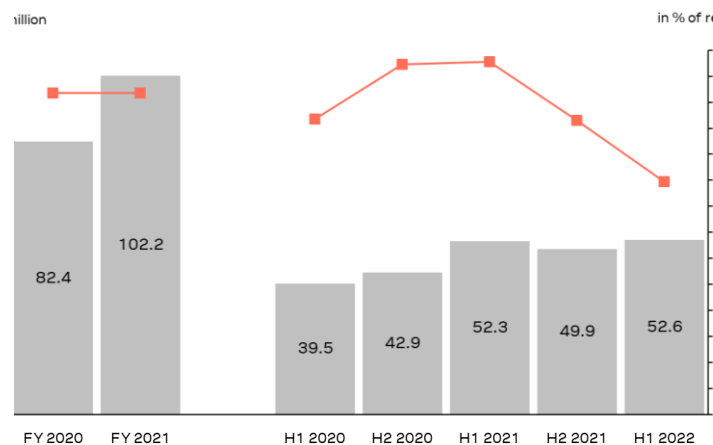
New levels of operating leverage to be maintained



Gross margin

≈50%

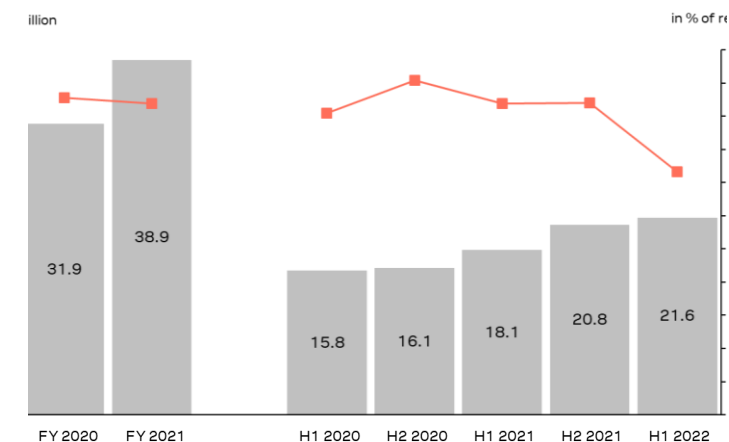
- Product mix
- Price increase



OPEX R&D

≤20%

- Agile organization
- Project selection



OPEX D&M

≤9%

- Channel management
- Wider share of wallet

Q&A

Thank you for your attention

Upcoming events



- u-blox full year 2022 results: 10 March 2023
- u-blox AGM: 19 April 2023

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