

Analyst day

November 20, 2019

u-blox Holding AG



The times are changing:

Who here has already taken a shared e-scooter? A shared bike? A shared car?

Agenda



10:00 - 10:05	Welcome	
10:05 - 10:25	The future will be wireless	Thomas Seiler
10:25 - 10:50	Technology insights	Andreas Thiel
10:50 - 11:15	Q&A	
11:15 - 11:30	Break	
11:30 - 11:55	Go-to-market strategy	Markus Schaefer
11:55 - 12:00	Operations	Thomas Seiler
12:00 - 12:10	Financial insights	Roland Jud
12:10 - 12:30	Outlook & Guidance	Thomas Seiler
12:30 - 13:00	Q&A	
13:00	Lunch	

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Harnessing change as driver for growth Thomas Seiler



The future will be connected

Mobility and the cloud will drive demand for wireless technology



**Connected
Vehicle**



**Connected
Industry**



**Connected
City**

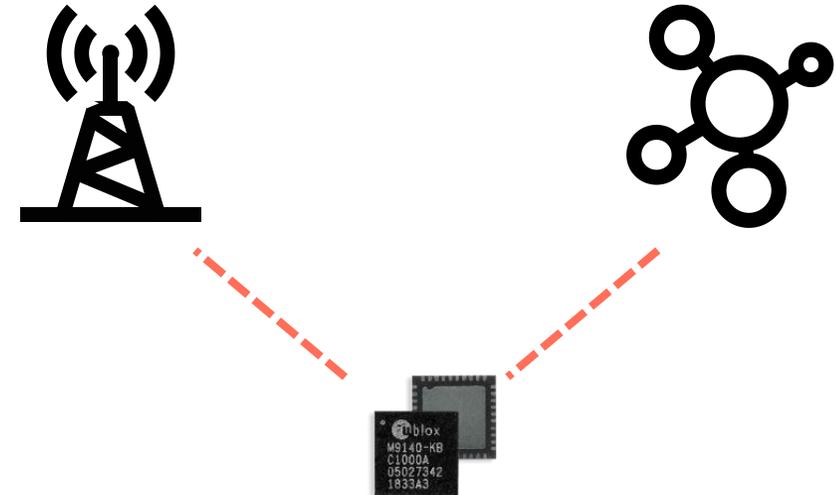


**Connected
Consumer**

The future belongs to innovators

Hardware is become ever-more complex, with u-blox spearheading innovation

- Over more than 20 years, u-blox has developed **deep IP** for
 - **Radios:** the sender and receiver of electromagnetic signals in the air
 - **Signal processors:** highly specialized processors that deal with huge data streams
- This IP is at the heart of our products and solutions.
- We embed this technology in highly miniaturized integrated circuits (chips).
- We solidify our success by continuing to invest in R&D and creating new products.



Innovation leader in wireless connectivity and positioning



Our line-up of wireless technologies makes us unique.

	 Cellular communication	 Short range communication	 Positioning
Integrated circuits			
Modules			
Services	CellLocate® (modem-based positioning) AssistNow™ (worldwide GNSS assistance service) GNSS Correction Data (for high precision)* FOTA (Firmware over the air) Lifetime security		

The combination of our three core technologies provides essential benefits to our customers

- Complete solutions
- Full ownership of technology
- Maximum competence
- Solid product roadmaps
- **Services** on top of HW
- Improved functionality
- Secure connectivity
- Lifetime support

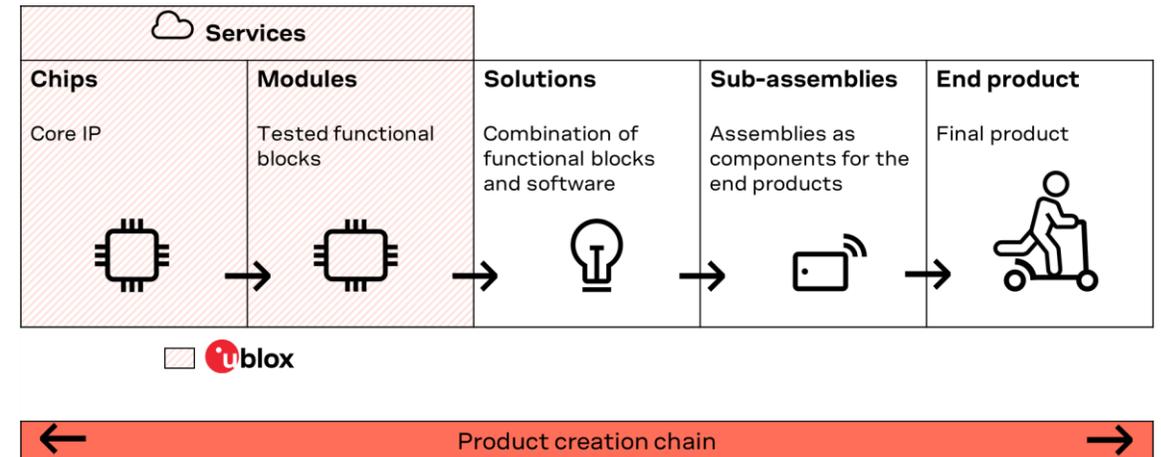
*through Sapcorda, a joint venture with industry partners

We make wireless connectivity easy

Built bottom-up from core IP



- Modules simplify the integration of wireless technology – just connect power and antenna.
- Modules are certified and thoroughly tested during assembly.
- Our chips let specialized high-volume customers benefit from economies of scale.
- Our rich software suite makes it easy for customers to adapt products to diverse applications.
- Data services enhance the feature set and performance of our products.



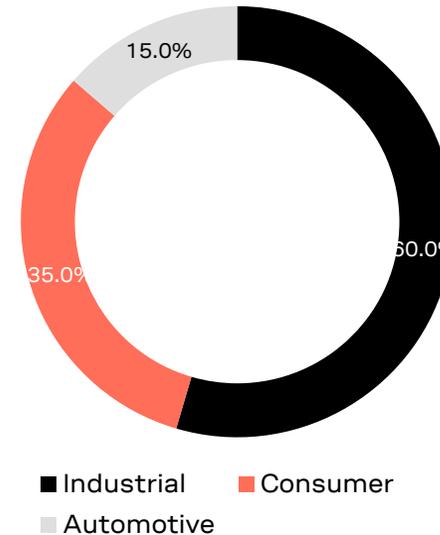
We have a strong foothold in long-term markets



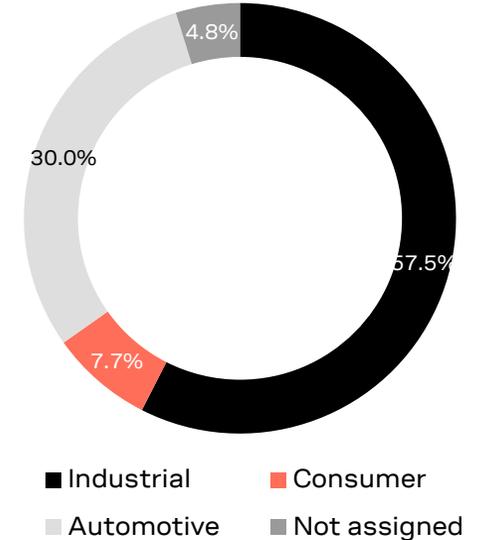
Industrial and automotive markets define our DNA

- We have strong traditional foothold in the industrial sector.
- We are experiencing continued growth in automotive.
- With our expansion into CEL and SHO, the consumer market has become an opportunistic application focus – mainly high-level consumer goods.

FY 2010



H1. 2019



Growth drivers in the **automotive space**

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

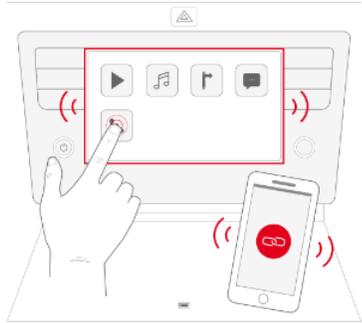
- Internet connectivity replicated in the car
 - Wi-Fi hotspot
 - Smartphone to dashboard
 - Infotainment on all seats
- Vehicle to the cloud
 - Driver assistance
 - Car systems maintenance
 - Support services
- Vehicle-to-X (V2X)
 - Enhanced safety
- Position
 - Navigation
 - Automated driving



Source: auto motor und sport, Heft 24, 7 Nov 2019,

u-blox products connect vehicles

Wireless technology increases passenger comfort



Smartphone to dashboard

- Wi-Fi and Bluetooth



Rear seat entertainment

- Wi-Fi



Smart charging

- Wi-Fi



Keyless entry

- Bluetooth

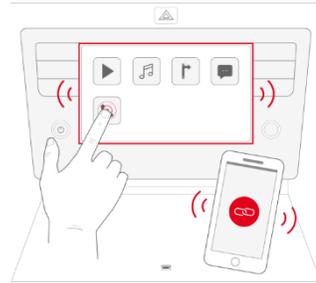
u-blox products connect vehicles

Wireless technology enables driver assistance



Cellular connectivity

- LTE Cat 4+



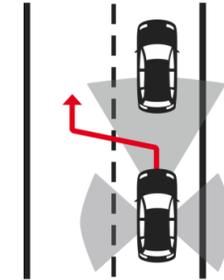
In-car navigation

- GNSS



Car-to-car communication

- V2X



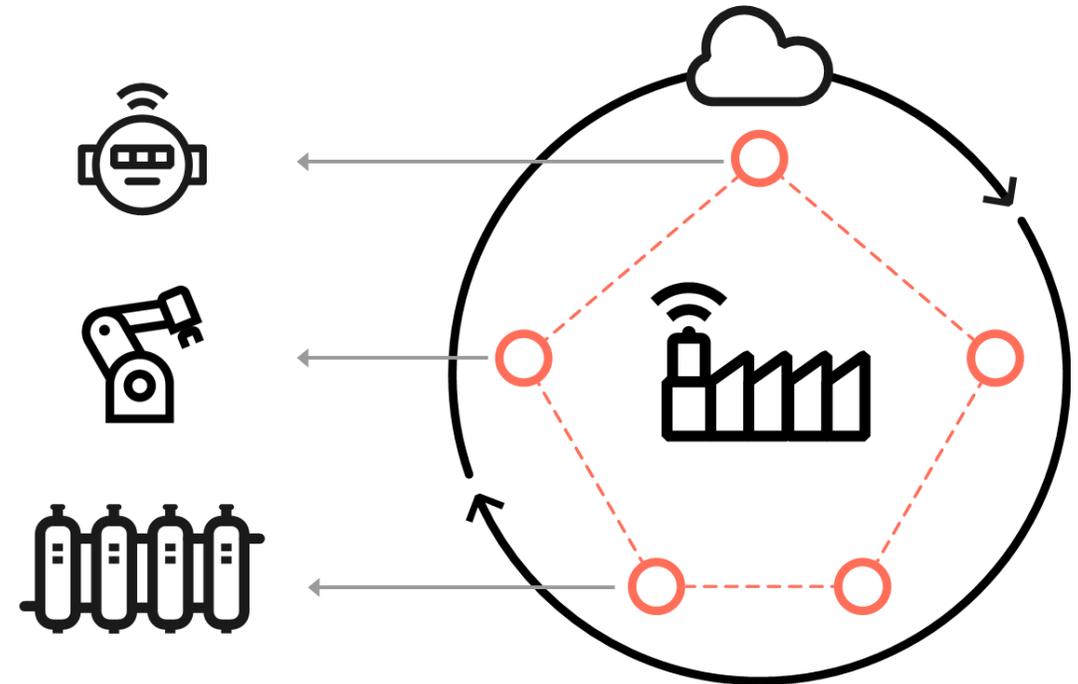
Automated driving

- GNSS
- Functional safety

Growth drivers in the industrial space

The scope of application is increasing rapidly as the wireless content in individual applications remains fixed

- Most industrial applications transfer small amounts of data.
- Efficient solutions are a must.
- Connectivity must support high capillarity and density of things.
- Local control loops are replaced by edge and cloud combined intelligence.
- Power-optimized devices deliver long battery lives.



u-blox products connect industrial goods

Wireless content makes stand-alone equipment a thing of the past



Power tools

- Bluetooth



Solar panels

- Cellular , Wi-Fi



Containers

- Cellular, Wi-Fi,
Bluetooth

u-blox products are core to new industrial solutions



Wireless technology enables previously unimaginable automation solutions



Lawnmowers

- Cellular, GNSS



e-Scooters

- Cellular, GNSS, Bluetooth



Drones

- GNSS, Wi-Fi, Cellular

Why are we competitive?

We are innovative and reliable to the core.



- 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 **important markets shares** in our market sectors and are often the **undisputed leader**.
- There is **no comparable company with our unique strategic line-up**.

Competition – main players

No other company offers the same solution space. Individual competitors only occupy a subset of our product sectors.

	 Cellular communication	 Short range communication	 Positioning
Integrated circuits	Qualcomm Mediatek Sequans	NXP Autotalks Silicon Labs Texas Instrument Qualcomm	Qualcomm STMicro
Modules	Telit Gemalto Sierra Wireless Quectel	Laird Lantronix Alps LG Murata	Novatel Septentrio
Services	Trimble Hexagon		

The market is more fragmented by many small local competitors

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

- Competitors in the space of integrated circuits focus mainly on the smart phone
- Competitors in the module space have no access to core IP and implement only the reference design of the chip suppliers

We have built this product space over many years

A steady journey from modules to chipsets to services



	 Cellular communication	 Short range communication	 Positioning
Integrated circuits			
Modules			
Services	CellLocate® (modem based positioning) AssistNow™ (worldwide GNSS assistance service) GNSS Correction Data (for high precision)* FOTA (Firmware over the air) Lifetime security		

- u-blox wireless and positioning technologies are available in a unique **combination of chips and modules**
- **Combining technologies provides for solutions that deliver extra value not available otherwise**
- **This strategic core delivers our inimitable market placement and drives our profitability**

*through Sapcorda, a joint venture with industry partners

Product launches 2019



Meeting our customers' needs for secure and simple cloud connectivity.



SARA-R5

The most advanced, secure, and highly integrated cellular modem offers unmatched end-to-end security and long product availability, making it ideal for IoT applications with long-term device deployments.



NINA-B4

Our Bluetooth low energy module series of stand-alone modules is ideal for indoor positioning applications and for deployments in harsh environments.



ZED-F9K High precision

Accuracy and low latency target automotive OEMs and Tier 1s developing V2X applications.



M9

The ultra-robust M9 technology platform will serve demanding automotive and high-end telematics applications.



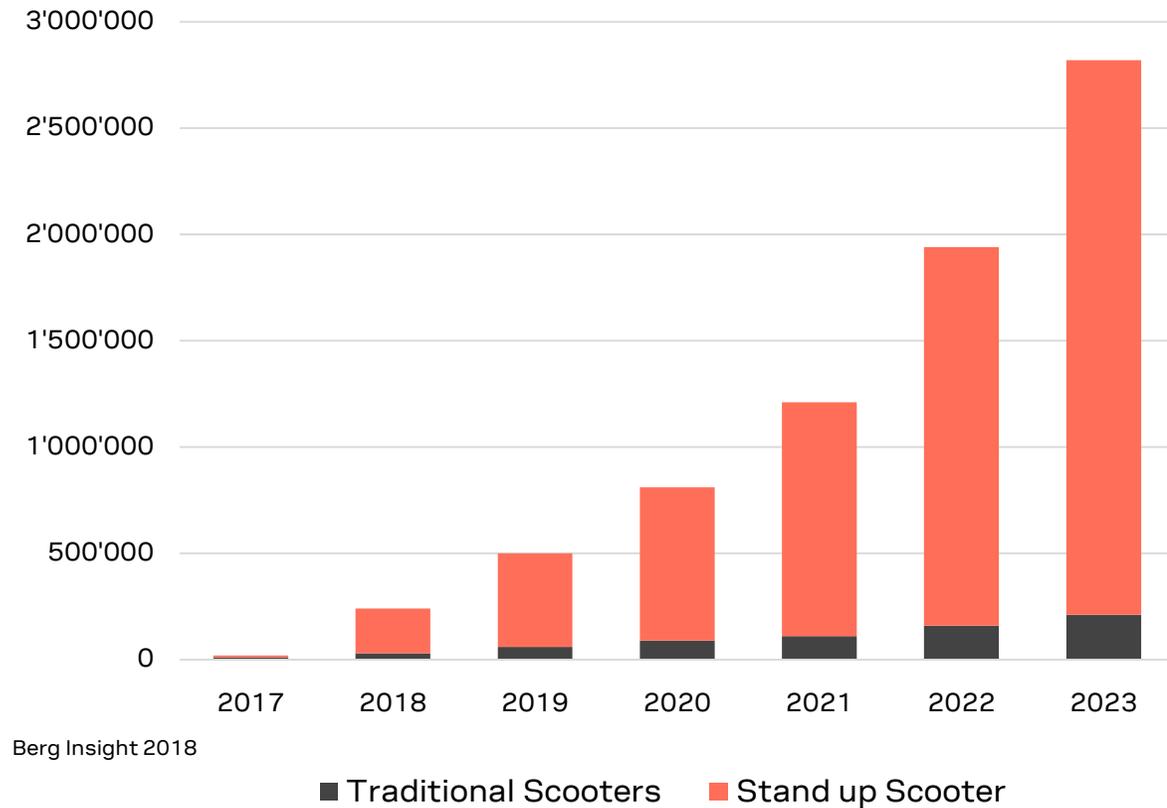
u-connectScript

Enables easy and interactive development of embedded applications, simplifying wireless Bluetooth and Wi-Fi device development.



e-scooter market size

Micromobility is only just getting started.



e-scooters – in summary

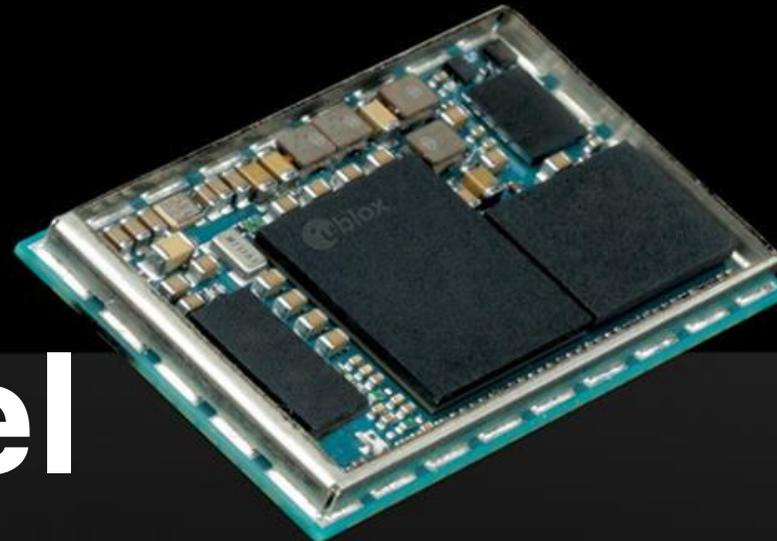
A next application space for wireless technology.



- Only feasible with **highly sophisticated wireless technology**
- **Our new products** form the ideal solution package
- Requires all our technologies in **module format**
- Enhanced functionality via our **services** essential to solution robustness
- Require **more of our technology** as vehicles become **autonomous**



Technology insights Andreas Thiel

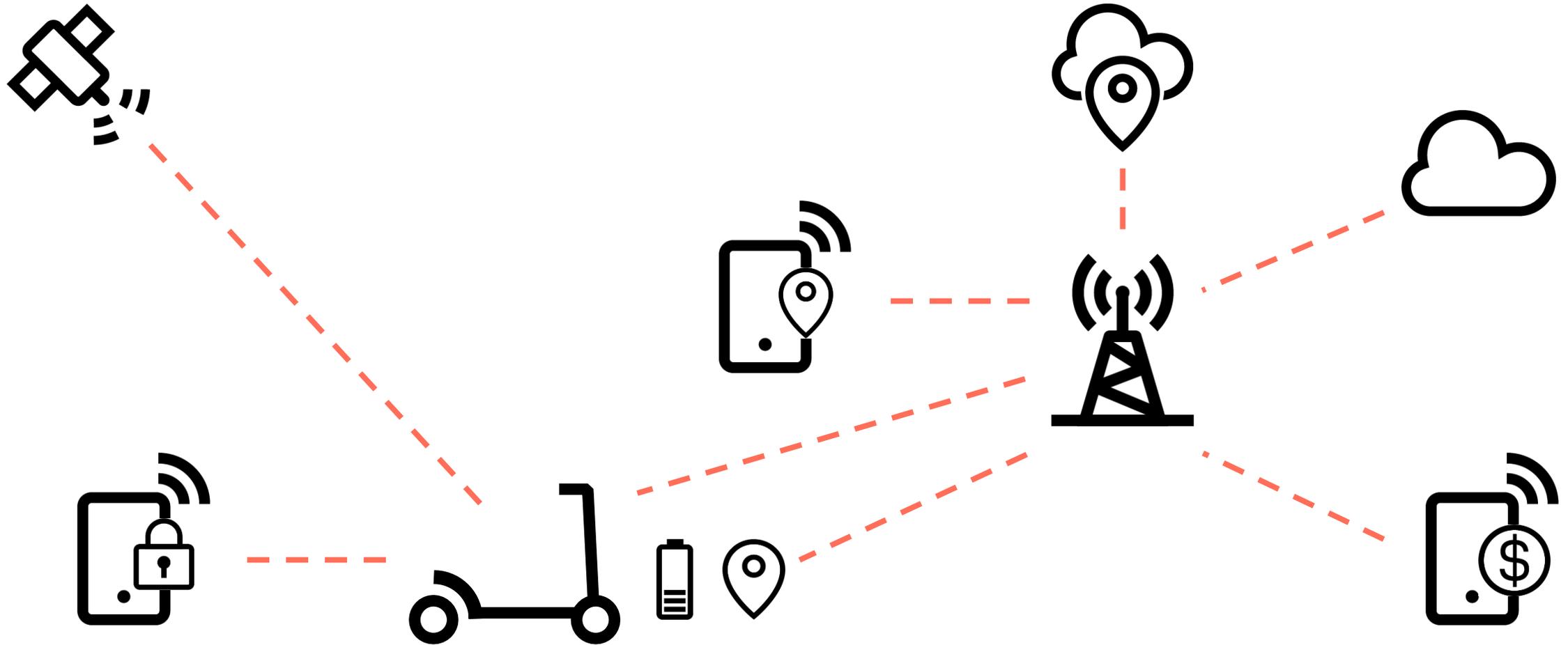




What it takes

Our technologies

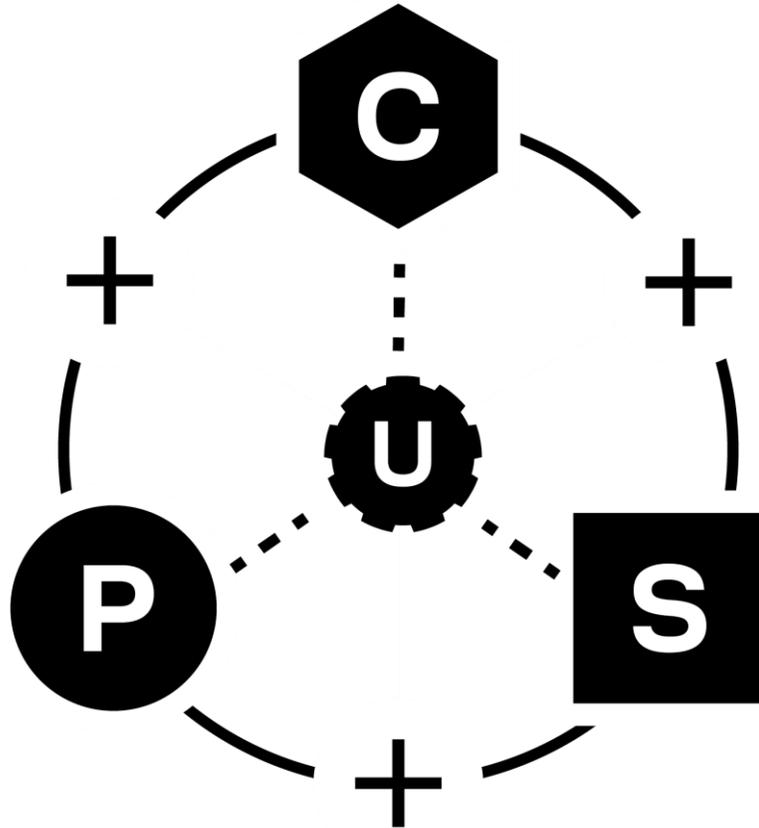
The wireless connectivity solutions for IIoT



Solutions from combinations of our technologies



We provide the core for many IoT applications



Our solution space: three core technologies + value-added services

- Cellular connectivity enables **wide-area connectivity** to the cloud
- Short range complements connectivity for **high capillarity**
- Positioning reliably **locates the asset**
- Our solution package delivers **outstanding functionality** thanks to high coherence between the three technologies
- Services **add value** to core functionality
- Our solution package represents up to **70% of the bill of material** of a finished product

u-blox proprietary wireless technology is unique



- **Long-term attitude:** Wireless chips and modules in the industrial and automotive markets have a 5-10 year life-cycle.
- Mixed signal competence: Analog radio and digital signal processing on **one piece of silicon** are our core technology and difficult to replicate.
- **High software content:** The specific software can only be developed by experts. It makes up 70% of our R&D cost.
- **Core intellectual property (IP) re-used:** Between generations of products and across the product portfolio. Low risk of obsolescence.
- **Value-added services** based on **our core IP in the end device:** Services enhance customer experience over the product lifetime.



15
R&D centers
worldwide



700+
engineers



CHF 100m+
annual investment
(2018)

Many elements define the final solution

Our customers rely on a broad range of our capabilities



Broad product portfolio

- Modules - a tested and certified assembly
- Form factor policy
- Multiple technologies combined
- Offering solution packages



u-connect software

- Saves development time & investment
- Accelerates time to market
- Easy integration
- Pre-flashed at delivery
- Secure boot to protect your system



Development support

- Structured product lifecycle process
- Module revision process
- Documentation under strict revision control



Certification

- Extensive global regulatory certifications
- Standards qualification and listing
- Health and safety
- Recertification to new or updated standards and mandates



Quality and reliability

- ISO 9001 certified processes
- Product qualification based on standards
- Lifetime reliability predictions
- Controlled product changes
- Zero defect policy
- Automotive industry compliant



Manufacturing

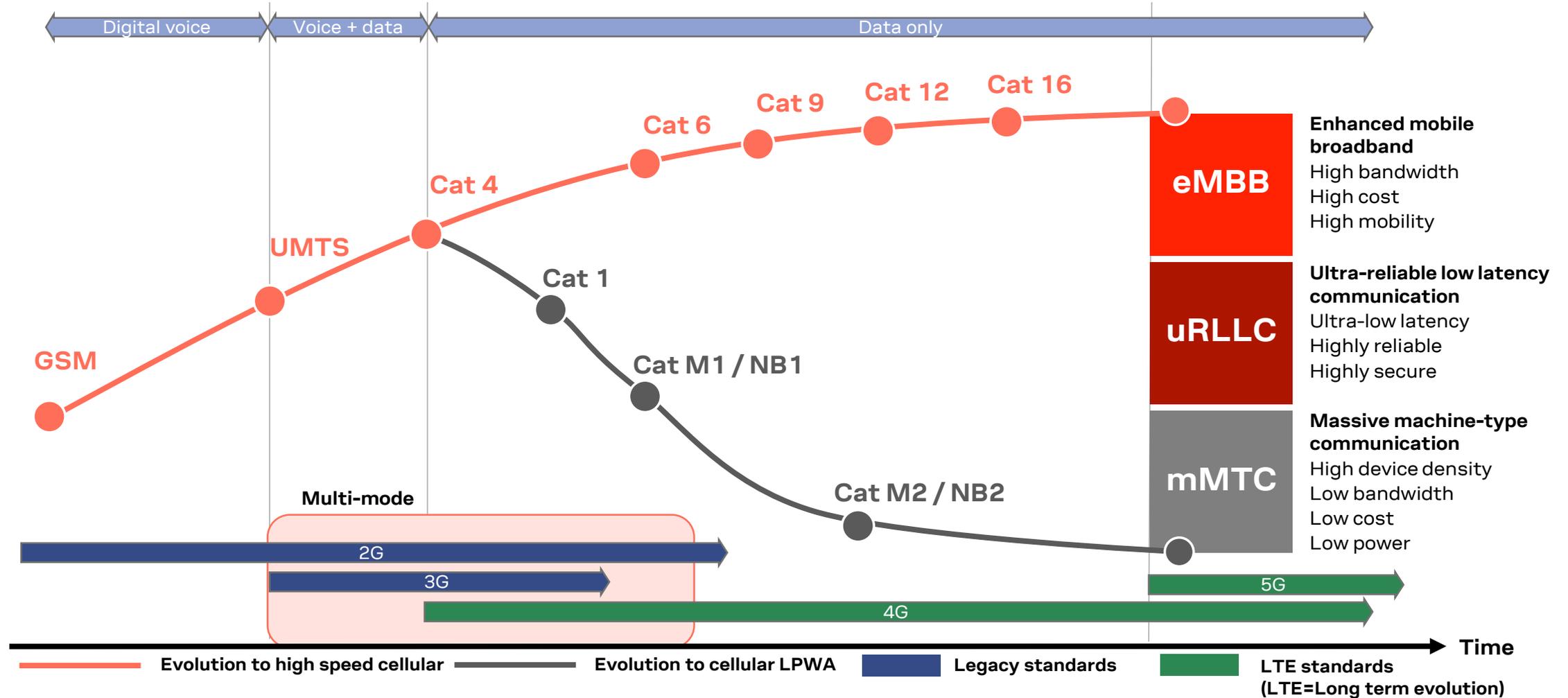
- Reliable production and logistics
- Capacity for high delivery flexibility
- 100% testing, tuning, and inspection
- Manufacturing sites automotive certified
- Long- and short-term planning loops
- Safety stock concept

Cellular offering

Cellular technologies are evolving towards 5G

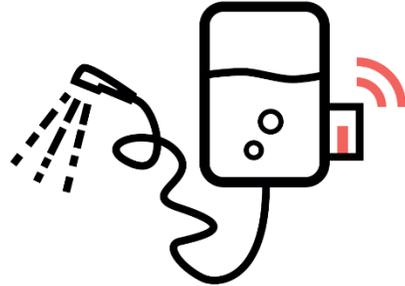


From legacy to LTE*-based standards releases



What CEL technologies deliver

From legacy 2G to 5G



2G / 3G

- Low to medium data rates
- Legacy network support, including data and voice

LTE-M / NB-IoT

- Ultra-low to medium data rates ideal for IoT
- Broad coverage
- Ultra-low power

LTE Cat 1

- Medium data rates
- Mobile applications
- Video / audio streaming

High Cat LTE

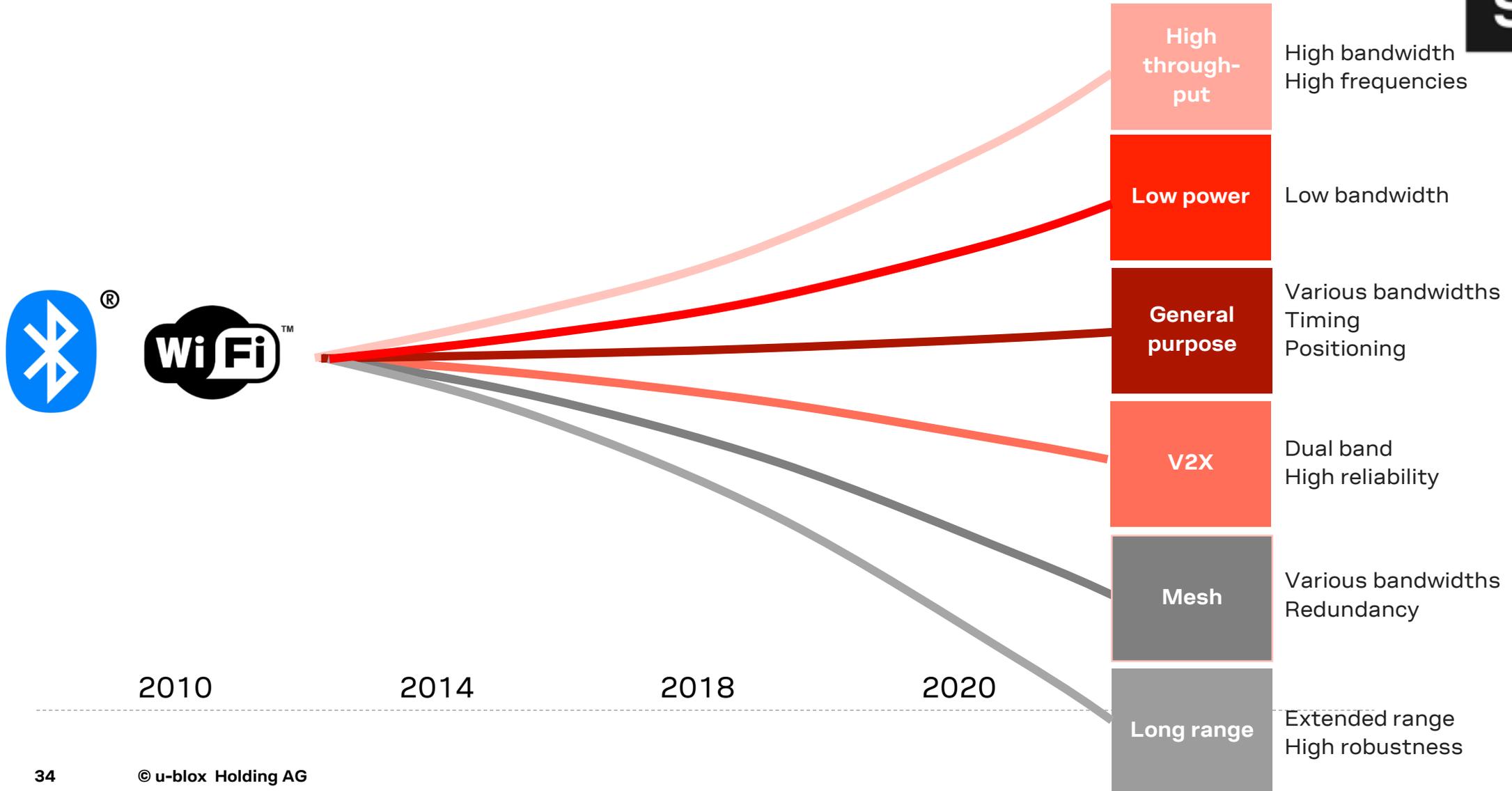
- Highest data rates
- Video transmission and infotainment

An aerial photograph of a white wind turbine in a field. The turbine is positioned on the left side of the frame, with its three blades extending outwards. A long, dark shadow of the turbine is cast across the field towards the right. The field is characterized by numerous concentric, wavy lines, likely from agricultural machinery. The sky is a pale, overcast grey.

Short range offering

Short range radio capabilities are expanding

More possibilities with Bluetooth and Wi-Fi



What SHO technology delivers

u-blox has the widest range of solutions



Sensor connection

- Capillary connectivity
- Ranging for positioning



Gateways, access points

- Bluetooth connectivity combined with Wi-Fi for internet access



V2X

- Reliable data transmission for enhanced vehicle safety



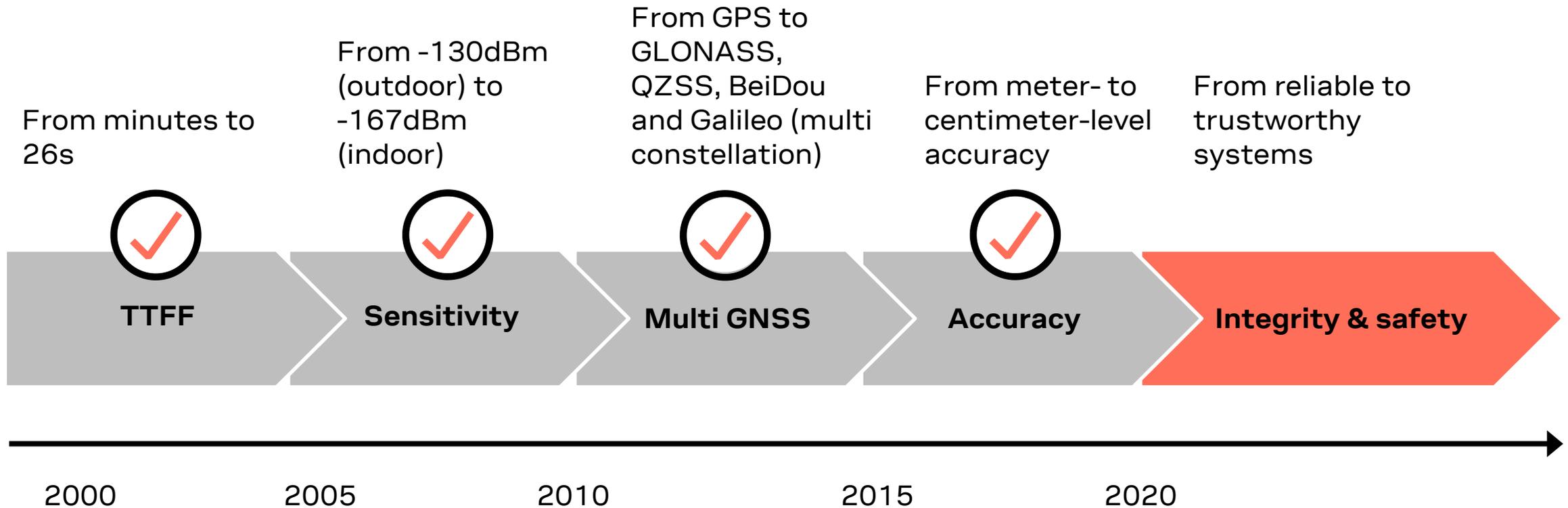
Networks

- Meshing of devices
- Long-range connectivity for controls

Positioning offering

The GNSS technology evolution

We are ahead the curve driving innovation



What POS technology delivers

u-blox is the benchmark for GNSS positioning performance



Standard precision

- Meter-level accuracy suitable for a wide range of applications



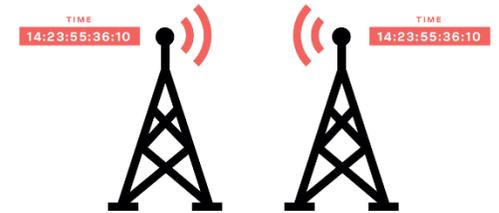
High precision

- Decimeter- to centimeter-level accuracy for robotics and autonomous driving



Dead reckoning

- 100% positioning information also in parking garages or tunnels

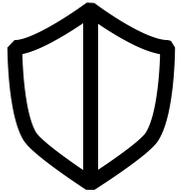


Timing

- Highly accurate timing used in communication networks, power grids, or financial systems

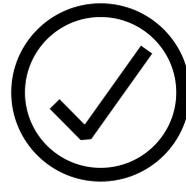
An aerial photograph of a large, intricate maze made of tall, green hedges. The maze is composed of several concentric rectangular paths, with a central square area. The hedges are well-maintained and create a complex, winding pattern. The background shows a dark, possibly wooded area, and some structures are visible on the right side.

**Security is
essential for
building trust into
IoT applications.**



Confidentiality

- System assets can be only used by authorized parties (secrecy)



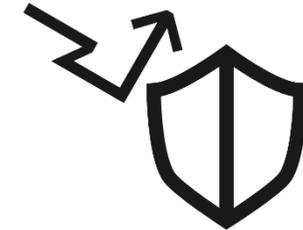
Availability

- Assets are accessible to authorized parties in a timely manner



Integrity

- The systems offers a measure of the trust in the correctness of the information provided



Robustness

- Systems are impervious against intentional or unintentional interference

Benefits of u-blox principles



Threat	Principle	Benefits
Modifications to the way that u-blox and customers' products work	 Secure boot	Only authenticated engineers can access debug facilities
	 Secure firmware updates	Any firmware upgrades are from u-blox and are checked
	 Secure interfaces and APIs	Encrypted and hidden connections to other components such as control processors avoids hacking
Changing the data as it flows around the system	 Secure communications transport layer	Secure communications to remote servers through signed and encrypted links over cellular or short-range radios
Taking control of u-blox products from unauthorised systems	 Secure against spoofing and jamming; robust against software attack	Detecting false input signals to positioning components

Customer wins

Use case: addMobile

Versatile professional tracker



Solution	Benefits
<ul style="list-style-type: none">• Combines all three key technologies for the solution• Cost-efficient offering• Vast installed base of interoperable BLE technology• POS, CEL, SHO	<ul style="list-style-type: none">• Higher efficiency on site• Logs work orders and fleet usage, enhances security, and locates tools• Robustness with combined wireless technologies



Use case: Leikr

Wearable hub for eHealth



Solution

- Collects and transmits patient data
- Smart medical watch that acts as a wireless gateway, channeling data from other medical devices to the cloud
 - POS, CEL, SHO

Benefits

- Delivers **reliable connectivity** (enhanced with key indoor positioning features)
- **Simple** to configure with u-connect
- **Secure** with hardware-based root of trust



Use case: Cowboy

Smart e-Bike



Solution	Benefits
<p>Cowboy E-bike 2.0</p> <ul style="list-style-type: none">• Next generation smart e-bike allowing various business models and extra services• POS, CEL, SHO	<ul style="list-style-type: none">• Strong cellular connectivity• Reliable positioning of the bike for preventing theft• Easy to configure via smartphone app



Use case: Husqvarna

Autonomous lawnmower

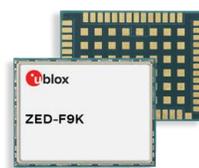


Solution

- Autonomous lawnmower platform
- CEL, POS

Benefits

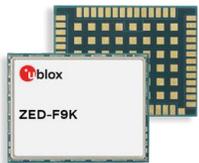
- **CEL connectivity** and **high precision positioning** make this device an autonomous vehicle
 - “u-blox is known for their experience with GPS and **their competence** in that area” (Husqvarna CTO)
-



Use case: High Great

Drone light shows

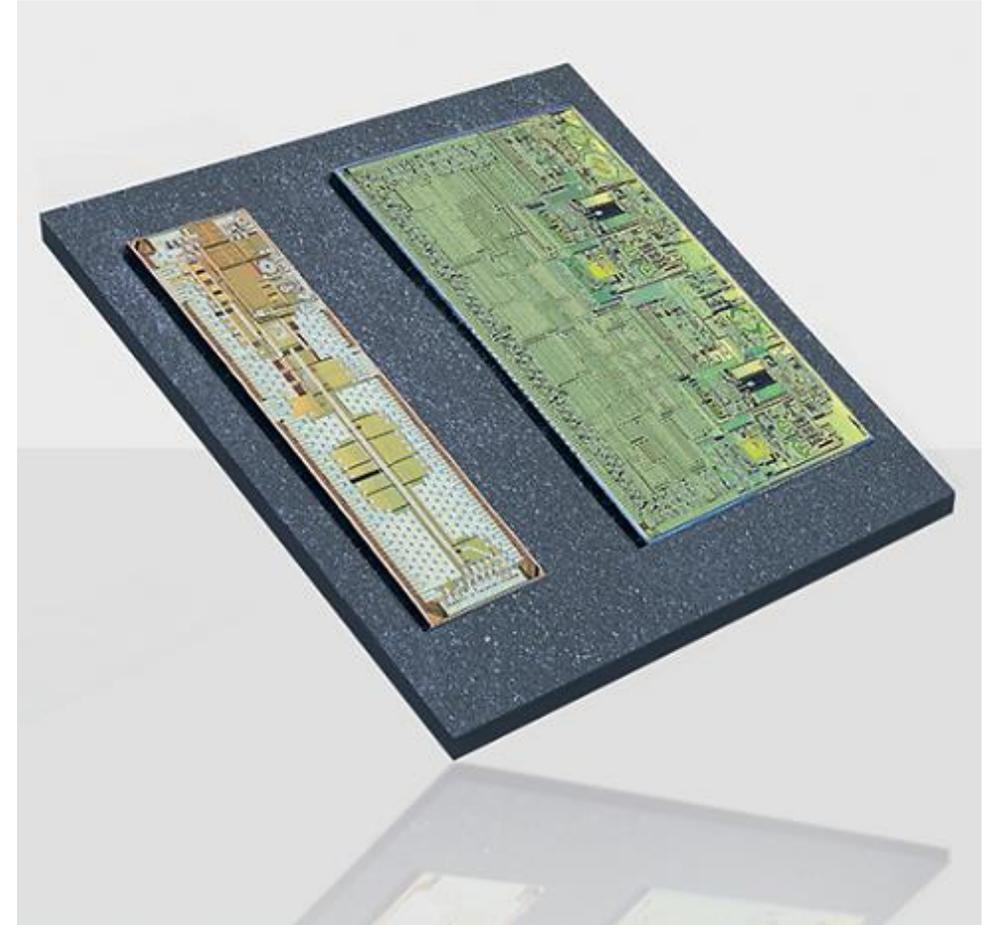
Solution	Benefits
<ul style="list-style-type: none">• Drones for light shows replacing fireworks• POS	<ul style="list-style-type: none">• High precision positioning makes high-resolution harmonic graphs possible• “Without the high precision technology from u-blox this would not have been possible!” (High Great CTO)



Why do we invest into silicon and core software?

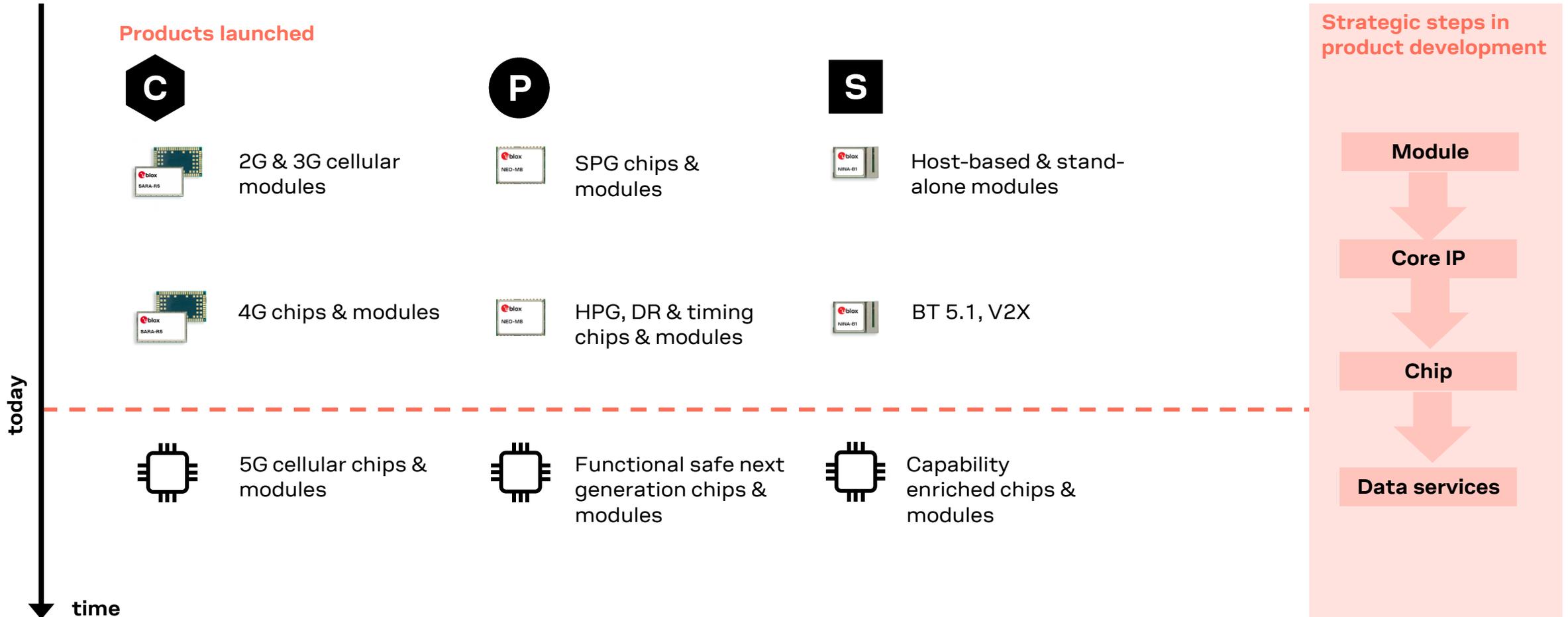
Achieving sustainable competitive advantage and value creation

- We **derive a larger part of the value chain** by delivering more:
 - Enhanced functionality
 - Lower cost of ownership
 - Added services
- We gain **independence** from 3rd party chipset roadmaps: Better fit to customer demand.
- We **increase margins** over the lifetime of the product.
- Customers take **long-term commitment** with u-blox because of our ownership of core intellectual property (IP).
- **Better customer support** thanks to full insight and control.



How do we do this?

R&D is a long term investment, developing products for tomorrow



The best is yet to come



Wireless technology shapes products and use cases



Autonomous driving is around the corner

- Connectivity to the cloud combined with edge computing allows solving very complex problems of **autonomous control**
- **High precision and functional safety** are key to such solutions
- **u-blox has invested into this space** for many years and will continue to expand its leadership



Die neue S-Klasse 2020

Source: Auto motor und sport Heft 24, 2019

Autonomous vehicle for micromobility

Wireless technology at work for the mass market



- Geofencing to avoid running scooters in pedestrian areas
- Scooters can return themselves to charging stations without a driver



China's Ninebot unveils scooters that drive themselves to charging stations

Reuters Aug 16 2019

Go-to-market strategy Markus Schaefer

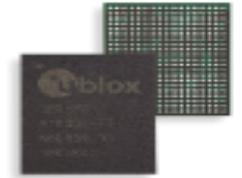


Expanding our value proposition

We are entering phase 3



- Phase 1: 1997...2008
 - Achieved technology **leadership in POS** – IP and chipset
 - u-blox established as the **prime brand** for positioning especially in automotive and industrial markets
- Phase 2: 2008...2018
 - **Complemented portfolio** with connectivity products for CEL and SHO
 - Gained **full IP incorporated in chipsets**
- Phase 3: 2019...
 - Reach **leadership position in automotive and industrial** segments with strong growing and market-shaping customers
 - Broaden solution offering with **unique value to the customer**, based on a deep understanding of customer requirements...
 - ...creating **more value and expanding our reach**



Select the right target markets



Automotive

Typical applications

- Vehicle telematics
- Emergency call systems
- Insurance boxes
- Autonomous vehicles



Industrial

Typical applications

- Asset tracking
- Automation
- Precision timing
- Smart metering
- Point-of-sales terminals
- Gas and water metering
- Smart traffic
- Security surveillance



Consumer

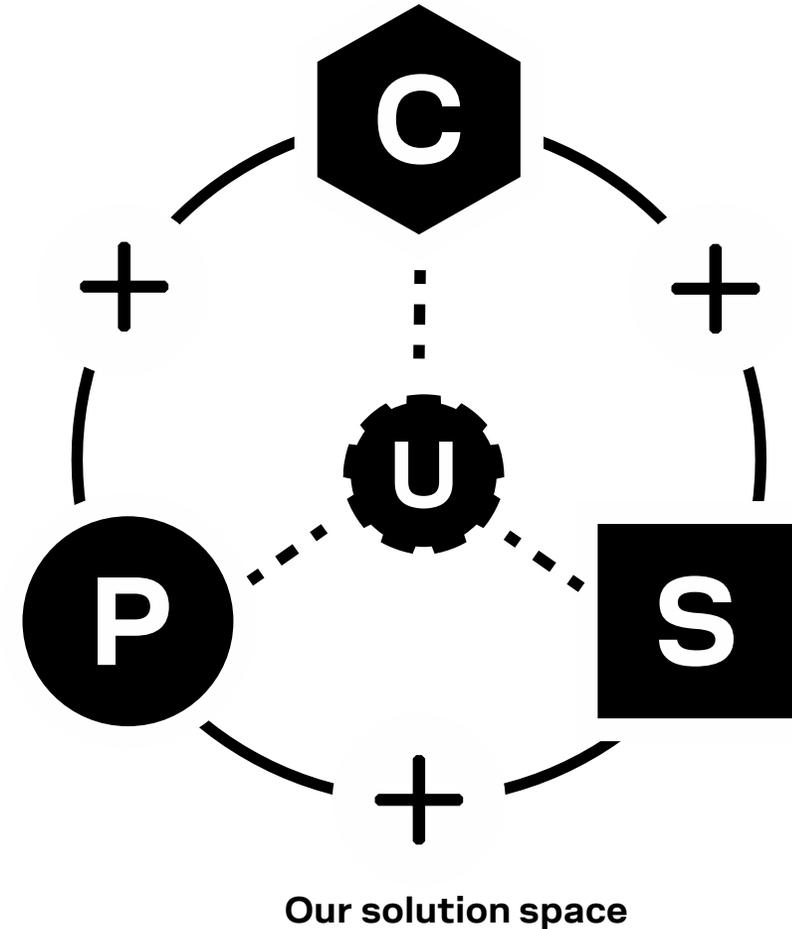
Typical applications

- Wearables
- Drones
- People and animal tracking
- Car accessories
- Mobile hotspots and routers

u-blox's unique selling proposition



- **Positioning** is a necessary anchor for determining the source of information.
- **Wireless connectivity** is the essential functionality for transferring data to the cloud.
- The combinations form the **solution space** – with unmatched functionality.
- We are **undisputed leaders** in positioning with strong brand recognition in our target markets, offering an anchor to sell bundled solutions.



u-blox owns 70% of Bill of Material

Establishing leadership with selected customers



- u-blox offers **added value functionality** because we own our IP.
- u-blox has a big advantage compared to others by **offering the complete connectivity solution.**
- u-blox often occupies 50-70 % of the bill of material.
- **Highly capable support** is key to engaging the customer.

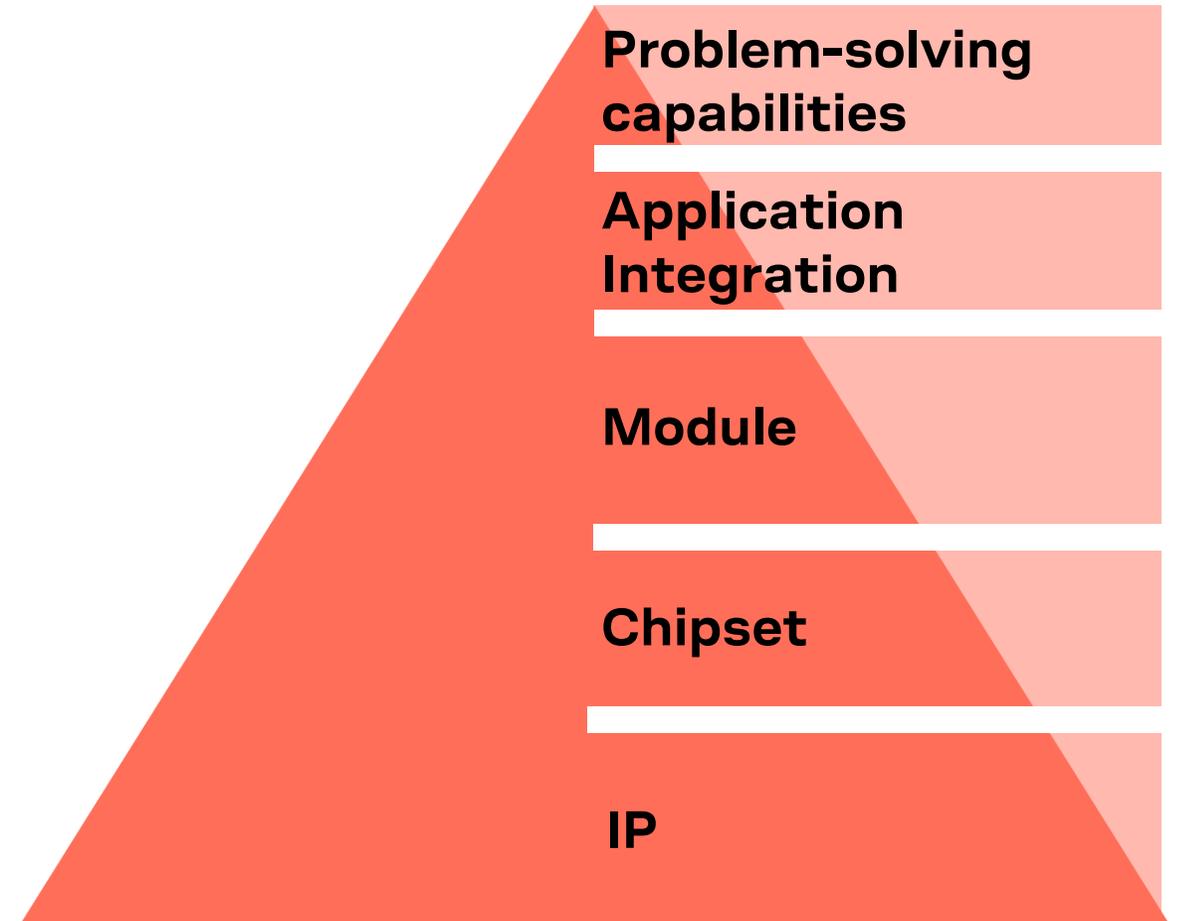


The u-blox value pyramid

A profound value build-up



- Unique **problem-solving capabilities** based on core IP for our solutions
- Unique **module and system-in-package** capabilities
- **Product road map** aligned with customer application problem
- Strong technology, product, and application know-how allow a **high-touch customer experience**

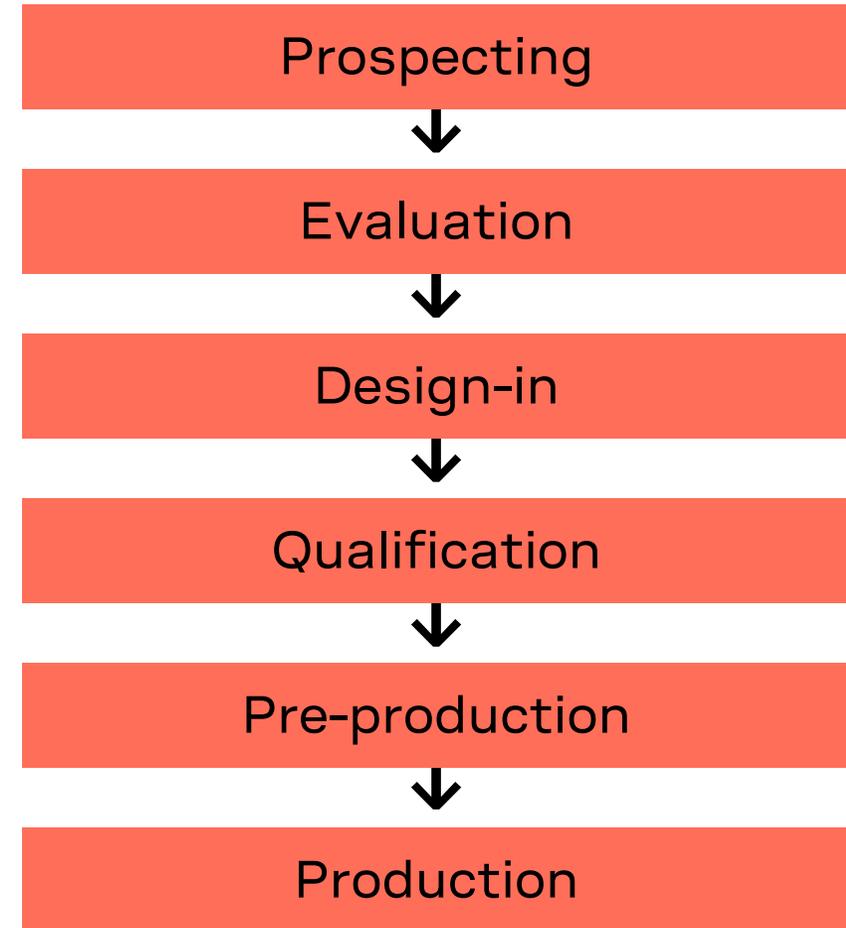


The key steps to customer engagement

A realized solution sets the basis for the future business potential



- A customer engagement involves moving the customer through several phases.
- Strong presence and technical **competencies** required in evaluation and design-in phases.
- The **solution creates the value** for the customer and is validated with the design-in.
- The design-in **locks in the customer.**

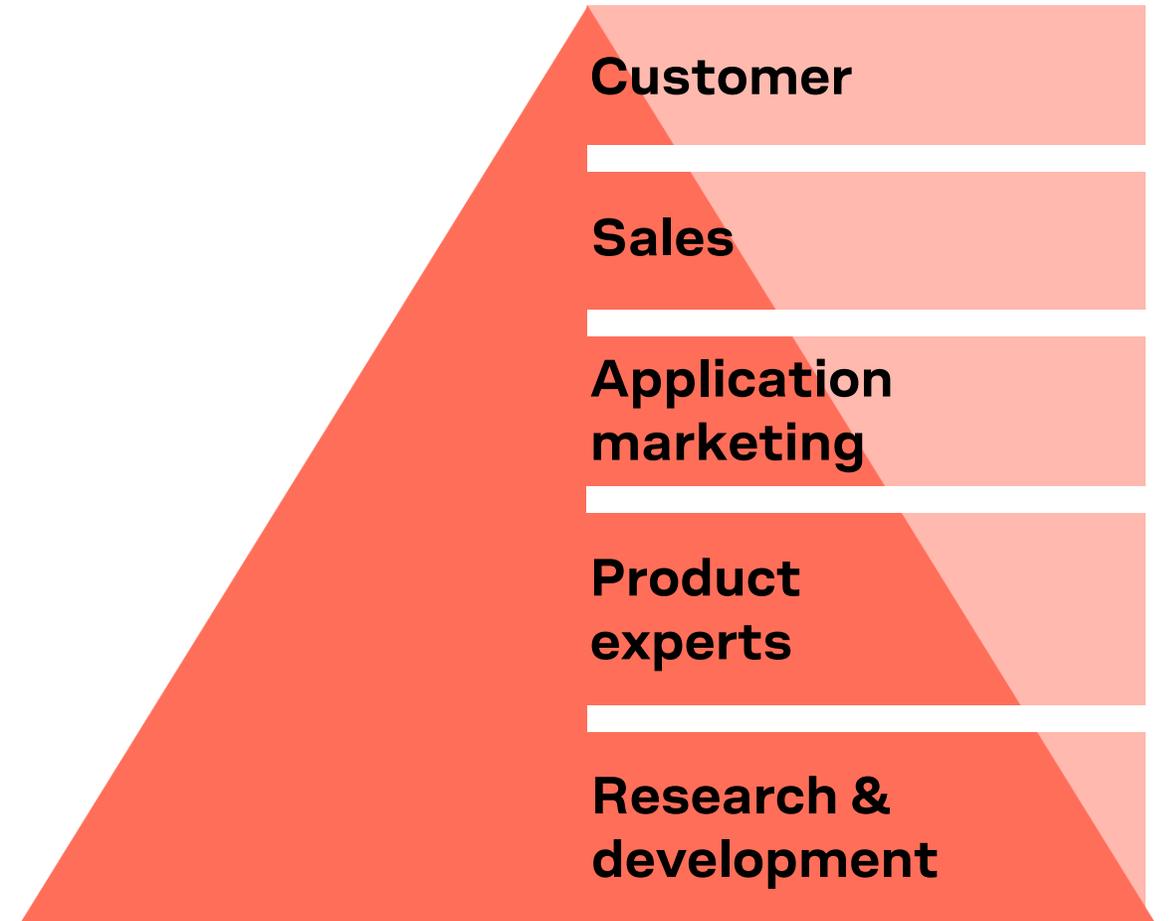


The u-blox support pyramid

Build best-in-class customer experience



- u-blox offers a **high-touch customer experience** with competencies directly deployed at the customer interface.
- Application marketing and product experts are part of our sales force.
- Strong technology, product, and application know-how allow **strong solution capability**.
- Product roadmaps and development are **closely aligned with customer problem space**.



Channels, global channels, and local expertise

Strong global customer reach



6700 customers worldwide

Continued expansion of our customer base



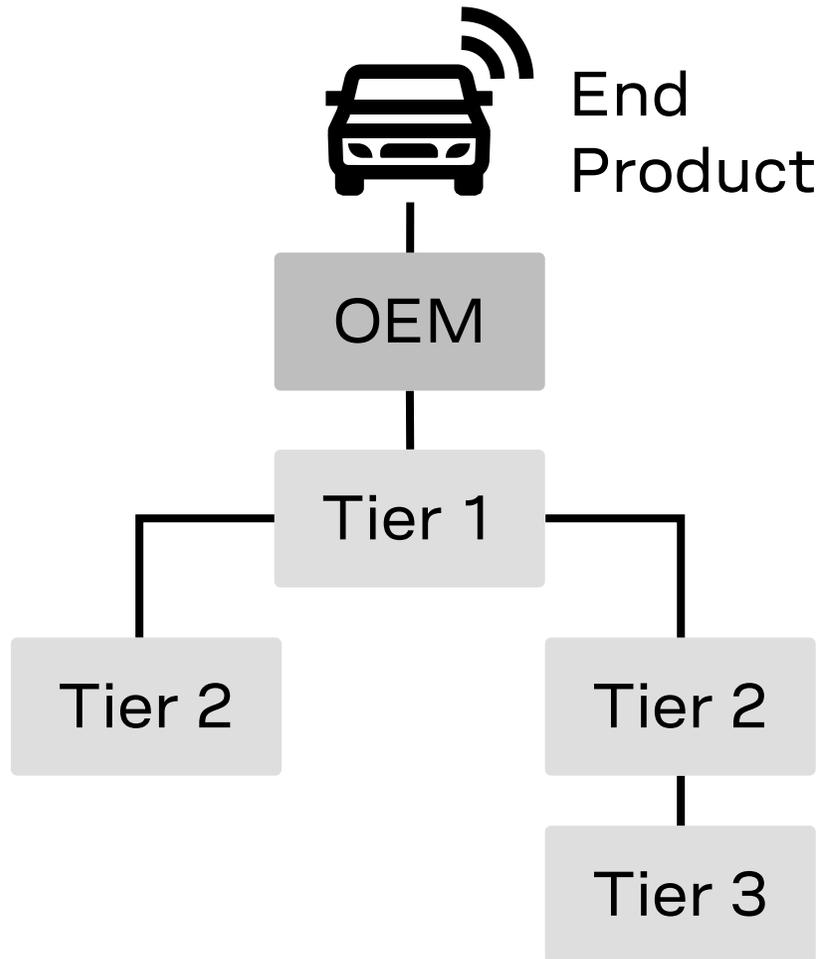
Razor-sharp focus to move design-ins to business-wins

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 **100 «A» customers we make 80% revenue** and they get highest level of attention.
 - With the remaining 6000 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.

Tier marketing

Value chains spread over several tiers, and globally

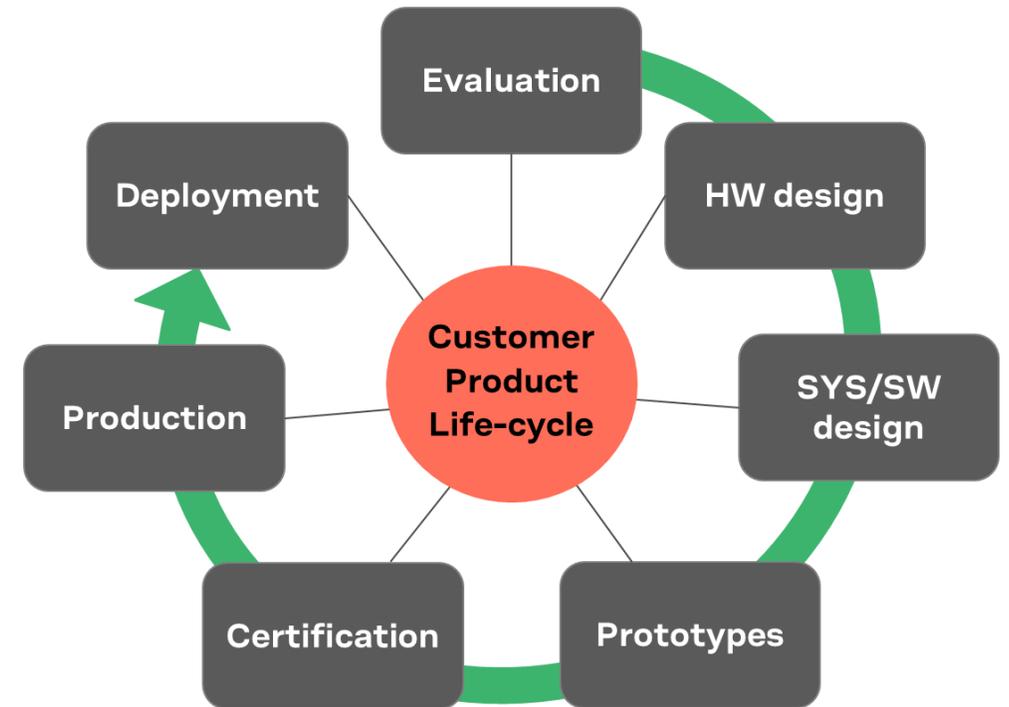


- Pull and push marketing
- OEMs increasingly determine specifications and technology selection
- Tier 1s maintain platforms for bidding at OEMs
- Global bidding needs a unified sales channel that can follow up on all tiers involved

Visibility – we know our customer base inside out

High fulfillment rate of customer needs and high rates of business wins

- We **know all our customers** and all their projects.
- We have a complete database (CRM) of customers.
- **Fast reaction** to customer demand – short delivery lead times.
- **Business is anchored on design-ins**, not contracts.
- We engage in **strategic relationships with global players**.



We extract more value through our value proposition



Strong cross-selling potential

- Positioning is a necessary anchor for determining the source of information. We drive innovation and are **thought leaders** in standard and high precision navigation.
- Wireless connectivity is the **essential functionality** for transferring data to the cloud with an increased sensitivity for secure data connection.
- u-blox helps customers improve **time-to-business** and adds value beyond a typical component supplier by delivering the complete solution.

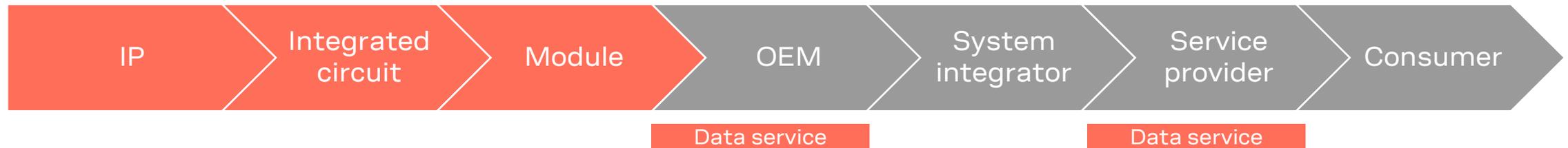


Undisputed foundation in the value chain



Looking forward

- 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.
- u-blox offers a high-touch customer experience with service capabilities and competencies that are unique in the industry.
- We do not compete with our customers.



Operations Thomas Seiler



Leading production partner

We work with the world leaders – for more than a decade



 GLOBALFOUNDRIES® #2



 tsmc #1



 flex #3



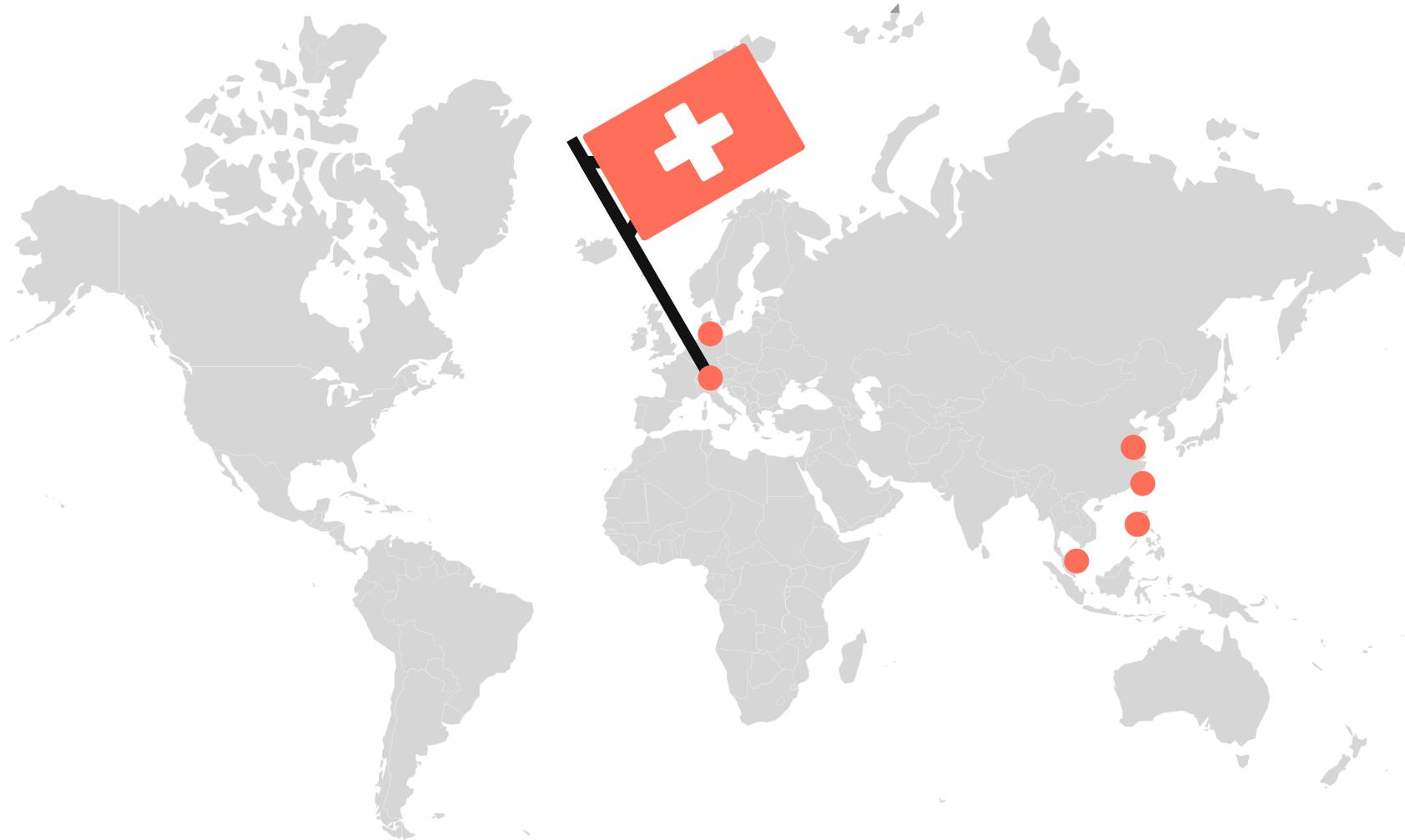
 Amkor Technology® #2



= global classification per segment

Not affected by trade tensions

Our manufacturing and warehouse locations are outside the regions in conflict

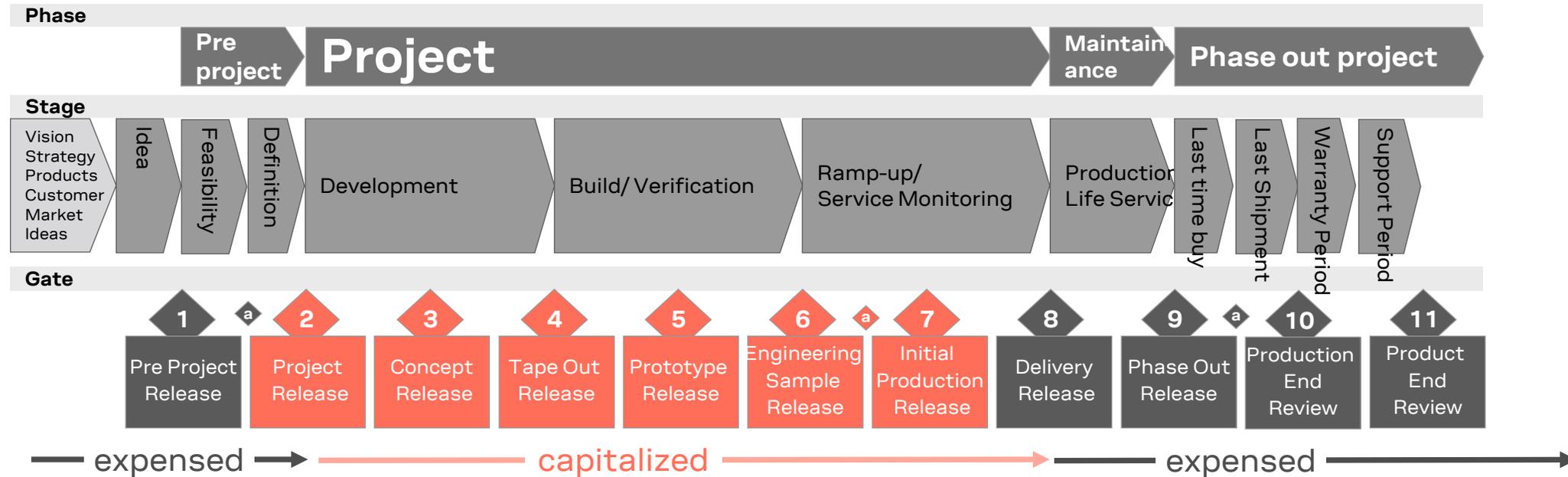


Financial insights

Roland Jud



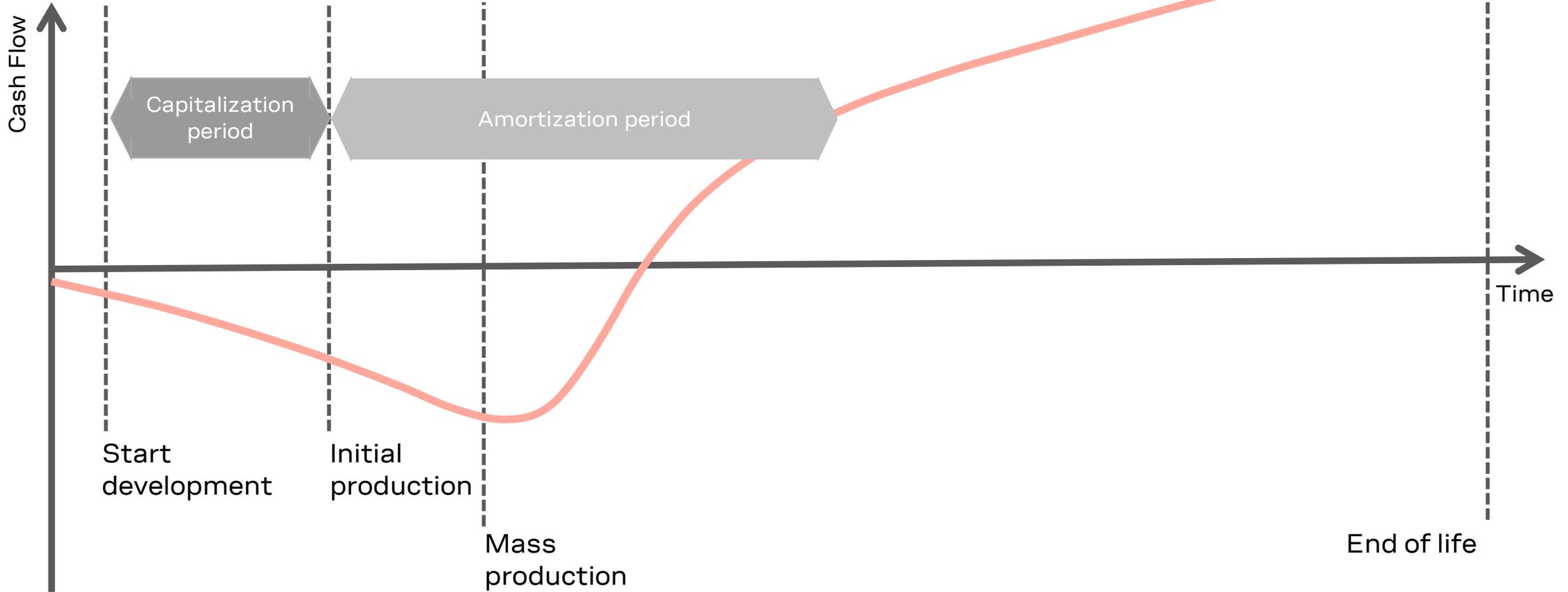
R&D capitalization model



- Half year R&D planning cycles
- Strong program management handling 250+ concurrent R&D projects
- This model is the basis for R&D cost capitalization
- **Gate 2: technical feasibility, Intention to complete, Ability to sell, positive future cash flows → start capitalization**
- **Gate 7: product available for sale → start amortization**

Our development cycle

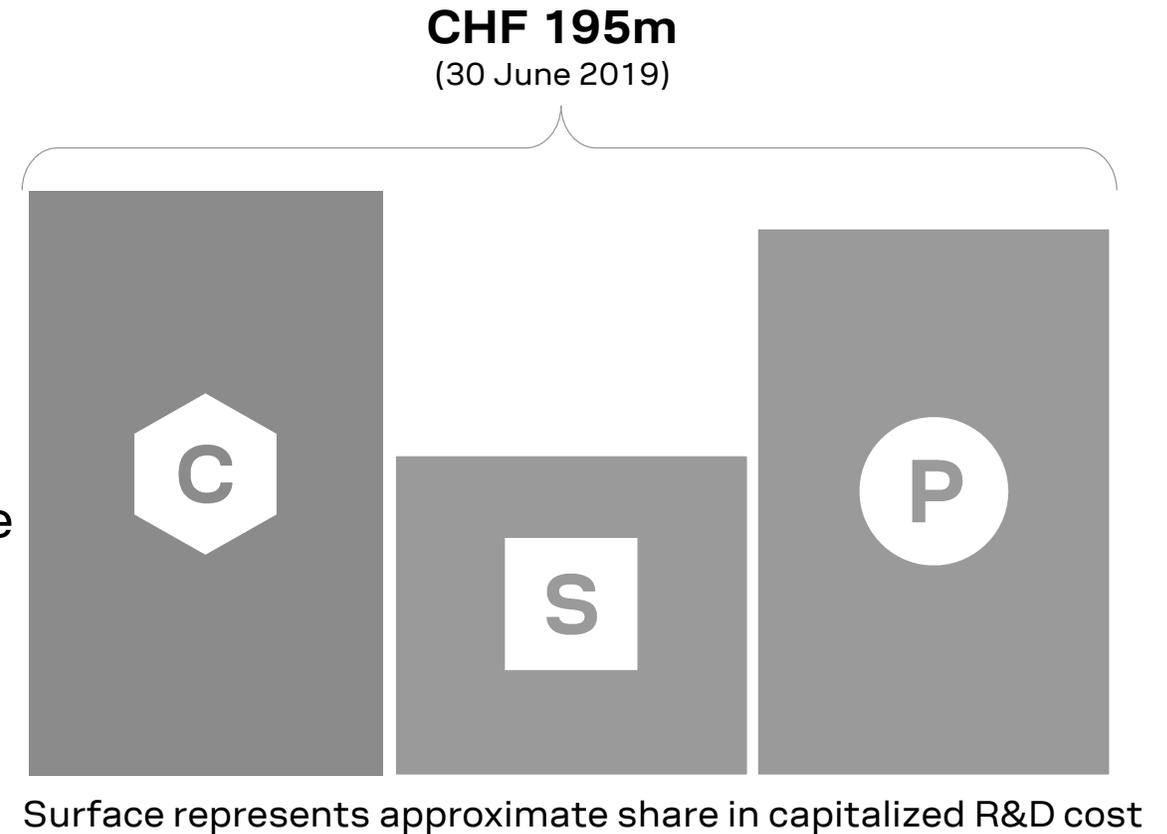
Large up-front investment – very long harvesting time



What the balance sheet reflects

A rich technology socket comprised of highly valuable IP

- All technologies reflected in capitalized R&D – **our core value**
- We capitalize R&D costs between **start of development** and **initial production** (capitalization rate H1. 2019 = 42%)
- New technology platforms require investments between CHF 20m and 35m.
- Currently we are capitalizing **six new platforms** spread over all technologies, the **core value of u-blox**
- Cellular technology takes a higher share because this technology delivers the products with the highest ASP.



Free cash flow



R&D intensity managed for positive free cash flow

- **Free cash flow is our key KPI**

Free cash flow impacted by working capital (inventories are temporarily high to cope with shortages on certain components)

- **R&D intensity managed** to achieve positive free cash flow

- From 2015-2019 intense R&D periods for establishing **several new chipsets** – now turning to harvesting and positive free cash flow

Input to modeling R&D cost:

- Estimate R&D cash expense for positive free cash flow
- Reflection in income statement:
 - 45% capitalization rate
 - Amortization period 3 - 5 years

Outlook Thomas Seiler



Strategy – 4 pillars



Market position



- ✓ Strong leader in automotive and industrial markets, 60 % market share in automotive
- ✓ High quality and reliability

Technology and innovation



- ✓ Chipset offer broadly expanded
 - ✓ POS: 9th generation incl. high precision
 - ✓ CEL: R3 and R5 for Cat 1, M and NB
 - ✓ SHO: V2X

Operational excellence



- ✓ Lean and agile organization
 - ✓ 2010: 400 engineers, 1 program
 - ✓ 2019: 800 engineers, various programs
- ✓ Strong expansion of number of customers

Strategic partnerships



- ✓ Many partnerships: Kudelski, Sapcorda
- ✓ Acquisition of Rigado - 15 acquisitions so far

Strategic acquisitions and partnerships

Accelerating the expansion of competence and product offering



Rigado

Acquisition

- Bolt on of SHO business
- Increase market share
- Extend our offering for short range modules
- Reach out to industrial and consumer market
- More cross-selling opportunity

Sapcorda

Joint venture

- Building the database for worldwide availability of correction data
- The necessary service for high precision positioning
- Opportunity for recurring revenues

Kudelski

Partnership

- Expanded partnership in 2019
- Help clients protect IoT devices and the ecosystems that they enable
- Offering IoT security in HW and as SW
- Partnering for consulting services for our customers

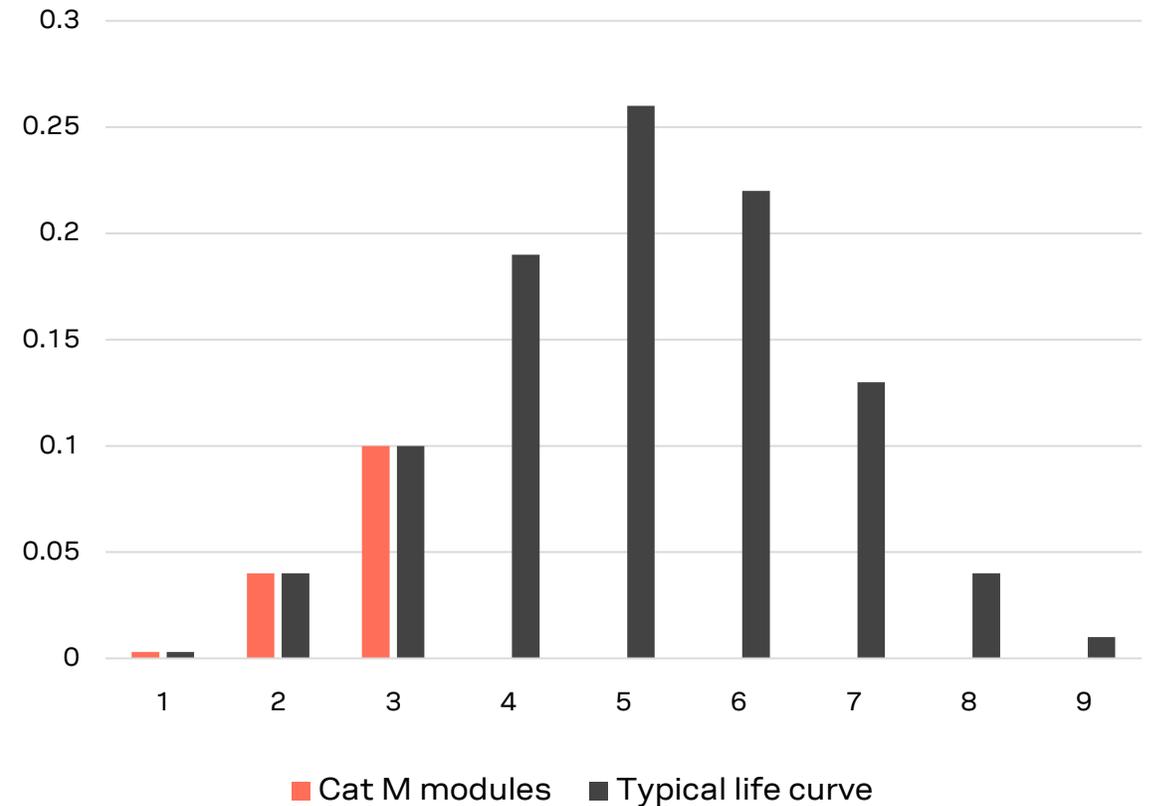
Having delivered on promises

Products launched, strategic position enhanced



- Recent product launches deliver as expected
 - **Excellent customer feedback**
 - **Ramp-up as expected**
- New platforms **fork into new application areas**, beyond pure technology succession
 - Example POS: M9, F9
- **Chip migration** potential built with previous generation of modules

Product ramp-up Cat M modules



An aerial photograph of a white wind turbine on a field. The field has distinct contour lines, suggesting it is a hilly or uneven terrain. The turbine's shadow is cast long and dark across the field to the right. The sky is a pale, overcast grey.

Guidance Thomas Seiler

• Outlook 2019

- Structural growth compensates for cyclical decline
- APAC good growth thanks to solid demand in China in the industrial field
- EMEA flat outlook due to overall negative sentiment in the industry and the decline in automotive production
- Americas Cat M demand ramping up but industry hampered by adaptations of the supply chain to avoid import duties
- R&D amortizations increasing over 2018 with new products entering production phase and lower R&D capitalization rate

	Actual FY 2018 (IFRS)	Updated guidance Aug 2019 (IFRS)
Revenue	393.3m	380m...400m
EBITDA	71.6m	50m...60m
EBIT	48.3m	15m... 27m
	CHF	CHF

Exchange rate assumptions for 2019:

- EUR/CHF: 1.12 USD/CHF: 0.99 GBP/CHF: 1.27

FX-sensitivity against CHF:

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

Solid basis for business expansion



Our many product initiatives pave the way into expanding markets

- We **participate in market expansion** driven by increasing mobility and expansion of cloud services.
- Our **product initiatives** preempt important megatrends in the industry – we have invested in new platforms in all our technologies
- We are preferred by the **leading customers** for our technology IP and innovation leadership.
- Our technology core assures the basis for **resilient value-added services**.
- Our product diversification by customers, applications, and geography **assures stability in growth**.
- Economies of scale **strengthen profitability**.

Positive impact on financial position

Continued long-term investments pay off



- With our several new platforms we have created important pillars of IP that allow to **sell at a premium price.**
- Next generation products will profit from **increased R&D efficiency** due to re-use of IP blocks.
- All of our six new platforms allow the creation of **services that we can monetize.**
- **Cross-selling effects** are further strengthened.
- Our business volume delivers sizable **economies of scale**

- Side note: Swiss income tax reform **will reduce tax rate** from FY 2020

Long term outlook – 4 year horizon*

Substantial growth ahead – new product platforms come to play



Revenue M CHF	Free Cash Flow %	EBIT %	EBITDA %
700 800	7% 10%	10% 13%	20% 25%

Updated

*Adverse macroeconomic conditions and continued trade war tensions may shift this time horizon

Takeaway: Unique market position

Grounds for mid-term optimism



Wireless connectivity – a centerpiece technology

- LPWA cellular networks driving **new high-volume use cases** (e.g. e-scooters)
- **Demand for solutions** combining multiple technologies on the rise
- Automotive and Industry expanded by **immutable growth drivers**

In-house IP for improved customer value

- Capitalizing on R&D efforts for **strong customer loyalty**
- Increased ownership of IP deliver independence from third parties for **matching true customer needs**
- We vastly **simplify product development** for our customers

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

**Thank you
for your attention**