NORSK TITANIUM

June 2024

Innovating the future of metal manufacturing

Rapid Plasma Deposition® - Additive manufacturing technology replacing legacy structural forgings

Forging then

Labor intensive

Forging now

Capital and energy intensive

The future of Forging

Rapid Plasma Deposition® (RPD®)

Reduced Labor, Capital and Energy

Norsk Titanium Highlights

Disruptive 3D Printing Technology	▪ **Rapid Plasma Deposition® (RPD®) Technology: Additive Manufacturing of Parts** ▪ **40% cheaper, 75% less energy and raw materials, takes 90% less time than legacy** ▪ **A sustainable manufacturing solution**
Focused on large scale manufacturing using RPD® Technology	▪ **Only additive manufacturer in production with Boeing, Airbus, and defense OEMs** ▪ **RPD® directly replaces titanium parts on current commercial aircrafts** ▪ **Industrial customers using Norsk Titanium's publicly released specifications**
Strong Collateral Value with Clear Path to Profitability	▪ **35 RPD® machines with 700 tons of annual print capacity** ▪ **Capacity can generate $300M of annual revenues** ▪ **RPD® process and software protected by a total of 191 patents**
Strong Sponsorship	▪ **More than $325 million invested in equity** ▪ **$125 million Production Facility provided by New York State** (leased for $1 per year) ▪ **Strong shareholder support - Scatec Innovation AS and Aljomaih Group**

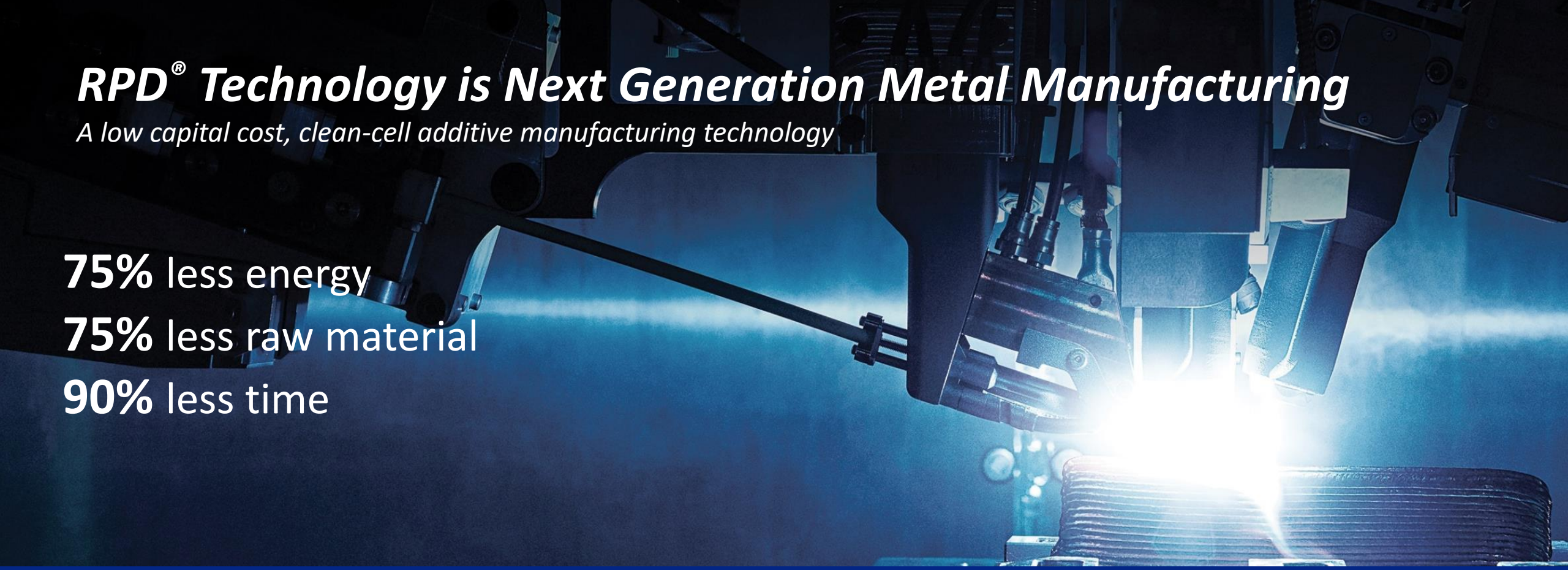
RPD® Technology is Next Generation Metal Manufacturing

A low capital cost, clean-cell additive manufacturing technology

75% less energy

75% less raw material

90% less time



Ingot converted to wire

Wire melted into near-net-shapes

Existing titanium value chain

Ore reduced to porous sponges

Sponges melted to ingots

Ingots cast into titanium blocks

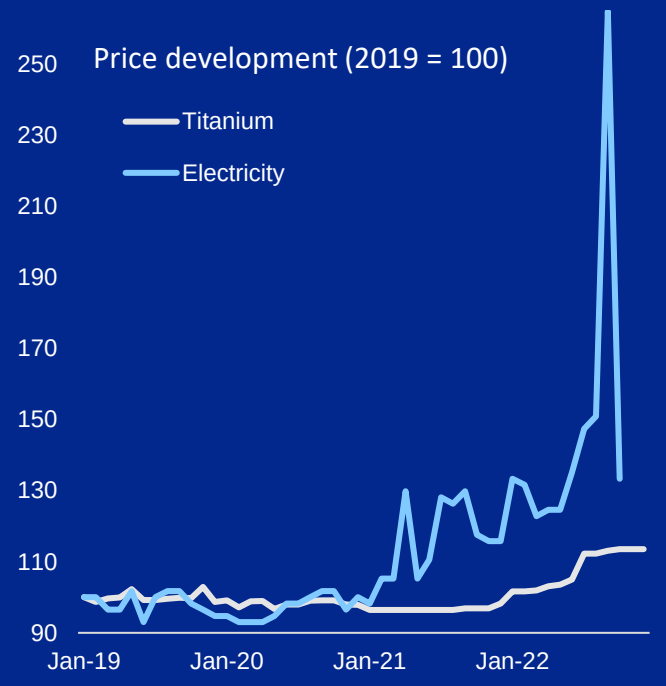
Ingots forged to gross shapes with expensive dies

Shapes machined to parts

Macro factors driving transition to RPD® technology

Global events have triggered a paradigm shift in the way industries need to manufacture goods

Commodities, Labor, and Energy Inflation Creating a Need for New Methods for Manufacturing

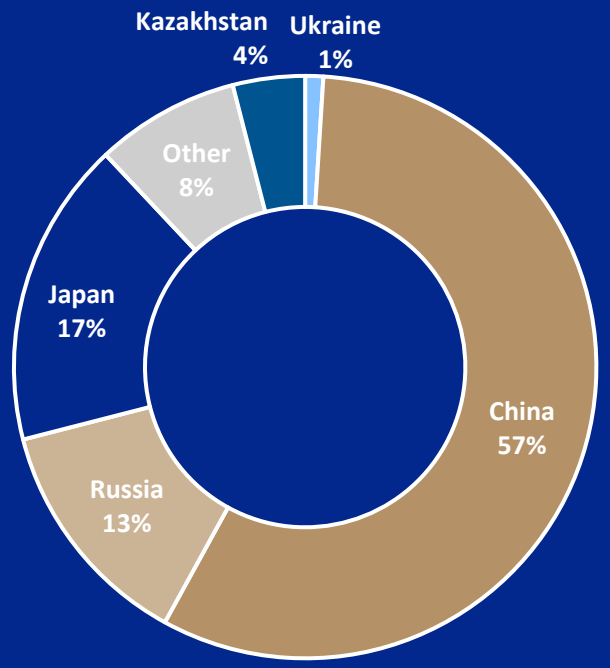


Manufacturing of metals is the largest consumer of energy, and forging of titanium is one of the most inefficient

Advanced manufacturing systems powering a resurgence in manufacturing in local economies

Source: Bureau of Labor Statistics, The Titanium Economy

Diminishing Titanium Supply



70% of the world's titanium raw material comes from China and Russia

Source: Newsweek - https://www.newsweek.com/battle-ukraines-titanium-1777106

State-of-the-art facilities with high production capacity

	Eggemoen, Norway	Plattsburgh, New York, U.S.	
	Headquarters & Technology Center	**Plattsburgh Production Center (PPC)**	**Plattsburgh Defense & Qualification Center (PDQC)**
Facilities			
Select Highlights	■ Established in 2011 ■ Focused on research and development ■ Features a full-scale metallurgy lab	■ State-of-the-art production facility custom-built for the RPD® process ■ Fully redundant support systems for world-class operating uptime	■ Established in 2017 following agreement between Norsk Titanium and State of New York ■ State-of-the-art production and training facility for metal 3D printing
FTEs	**64 employees**	**52 employees**	
Capacity	■ **3 RPD® Machines** ■ **Annual Capacity:** 60 Metric tons / year ■ **Facility Size:** 25,000 sq. ft.	■ **22 RPD® Machines** ■ **Annual Capacity:** 440 Metric tons/year ■ **Facility Size:** 80,000 sq. ft.	■ **10 RPD® Machines** ■ **Annual Capacity:** 200 Metric tons / year ■ **Facility Size:** 67,000 sq. ft.

June 2024 - Commercial Update

Major wins across all market areas

Commercial Aerospace

- Signed landmark Master Supply Agreement with **Airbus**
- **Airbus** wave 2 parts transitioning into serial production and beginning to generate revenue in Q2
- Signed direct serial production supply contract with **Boeing**

Defense

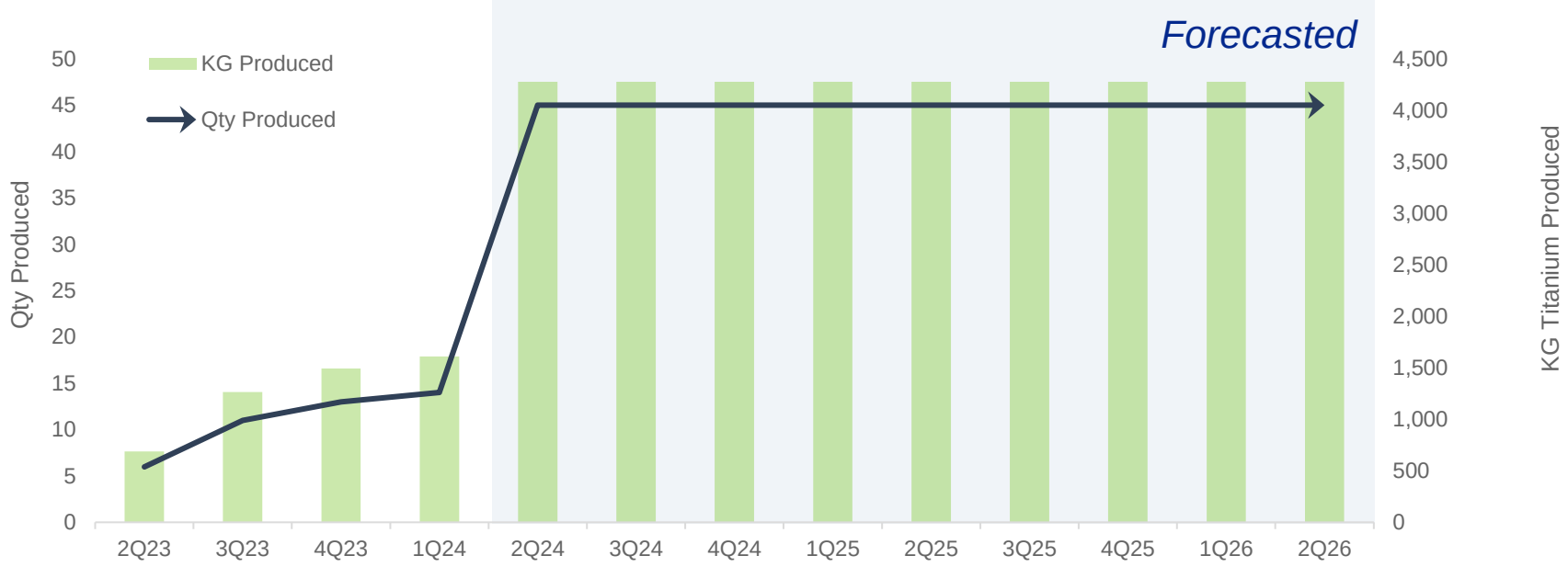
- Qualifications and production orders with **US Department of Defense** and DoD prime contractors
- **Northrop Grumman** material qualification complete and in place
- Added to **General Atomics** approved supplier list

Industrial / New Opportunities

- Secured long-term production orders for **ASML** carrier trays with **Hittech**
- Received third production order from **Hittech** - annual recurring revenue of USD 2 million from one product
- New parts in development for transitioning into production this year

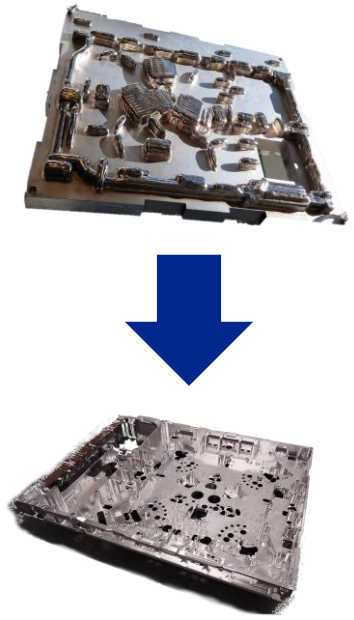
New Hittech contract demonstrates industrial capability

Ramp-up for recurring quarterly production of 45 carrier trays to Hittech



Print Optimized

90 kg RPD® Print



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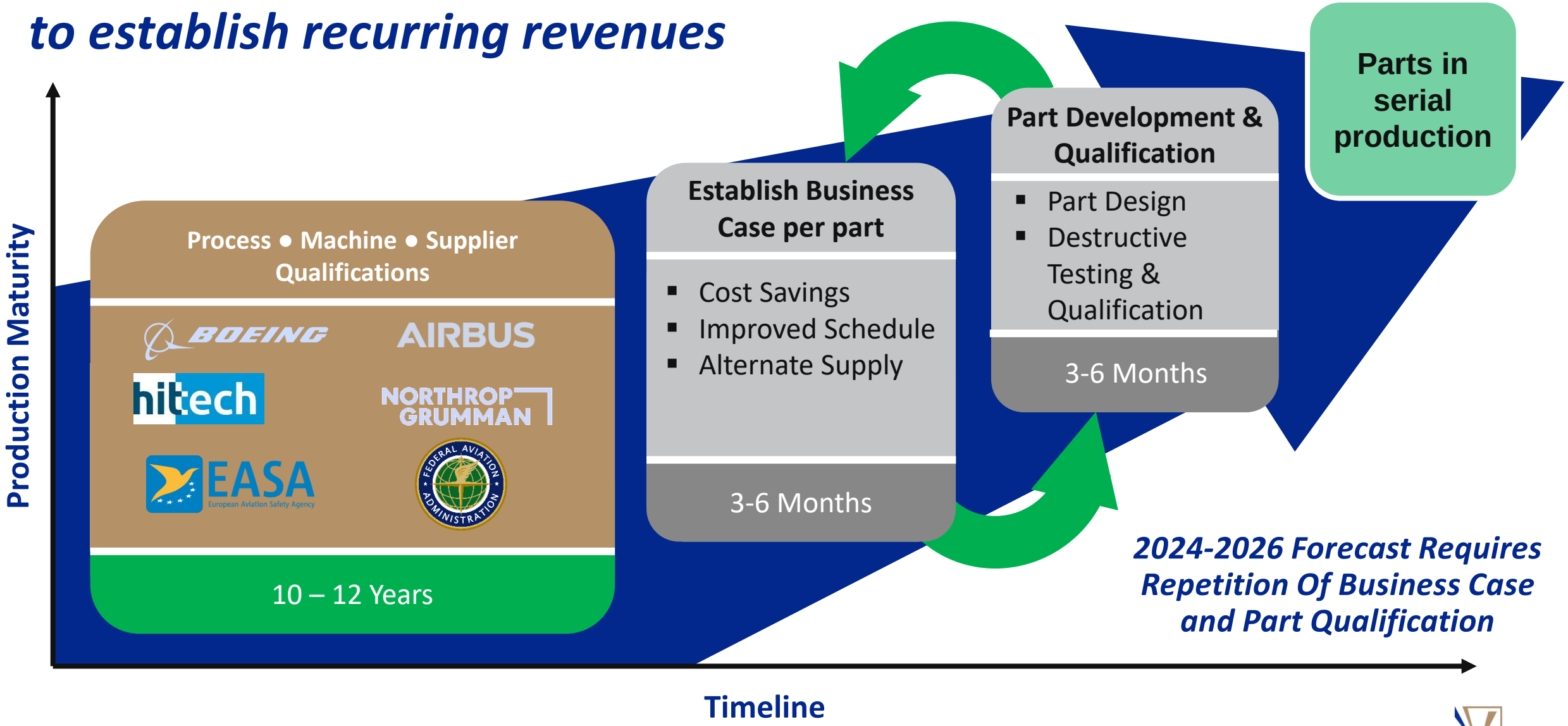
- Norsk Titanium is now in steady state production on the NXT carrier tray
- Producing and delivering **> 4,000 kilos** of material per quarter
- New contract generating annual recurring revenue of approximately **USD 2.0m**

Entering new phase of serial production and scaling of recurring revenue from development and qualifications

- **Airbus** Master Supply Agreement opens for transition of Wave 2 parts in Q2
- Also transitioning more parts into serial production for **Northrop Grumman** and **semiconductor market**
- Currently **21 parts** in serial production with annual recurring revenue of approximately USD 6 million
- See **~6x increase in no. of parts** in serial production and **>10x increase in ARR** during 2024

	YE 2022	H1'23	YE 2023	H1'24e	YE 2024e	Description
Parts in serial production	7	8	11	~30	>60	Parts in serial production for tier-1 suppliers to leading OEMs in target markets
Annual recurring revenue of parts in serial production	$1m	$2.5	$4m	~$10	$50	Estimated total annual revenue opportunity for parts in serial production

Transitioning parts to production to establish recurring revenues



2024-2026 Forecast Requires Repetition Of Business Case and Part Qualification

Completed long qualification processes with major customers

10 - 12 years to complete

Material Specification: 8-10 years to publish material specifications equivalent to structural forged titanium material

BOEING AIRBUS **Established Material Specification** hittech NORTHROP GRUMMAN

Machine Qualification: 6-12 months to qualify RPD® Machines for use in commercial aerospace and industrial

Boeing	Airbus	[US Defense Contractor]	Industrial

Approved Supplier List: 6 month audit process to become an approved supplier for major OEMs and Tier-1 Suppliers

GKN	Spirit Aerosystems	Leonardo	Hittech	Northrop Grumman	General Atomics

Recurring

Part transitions to establish recurring revenue on high volume aircraft and equipment platforms

Business Case (3 - 6 months)
- Prove strong business case
- Execute change boards

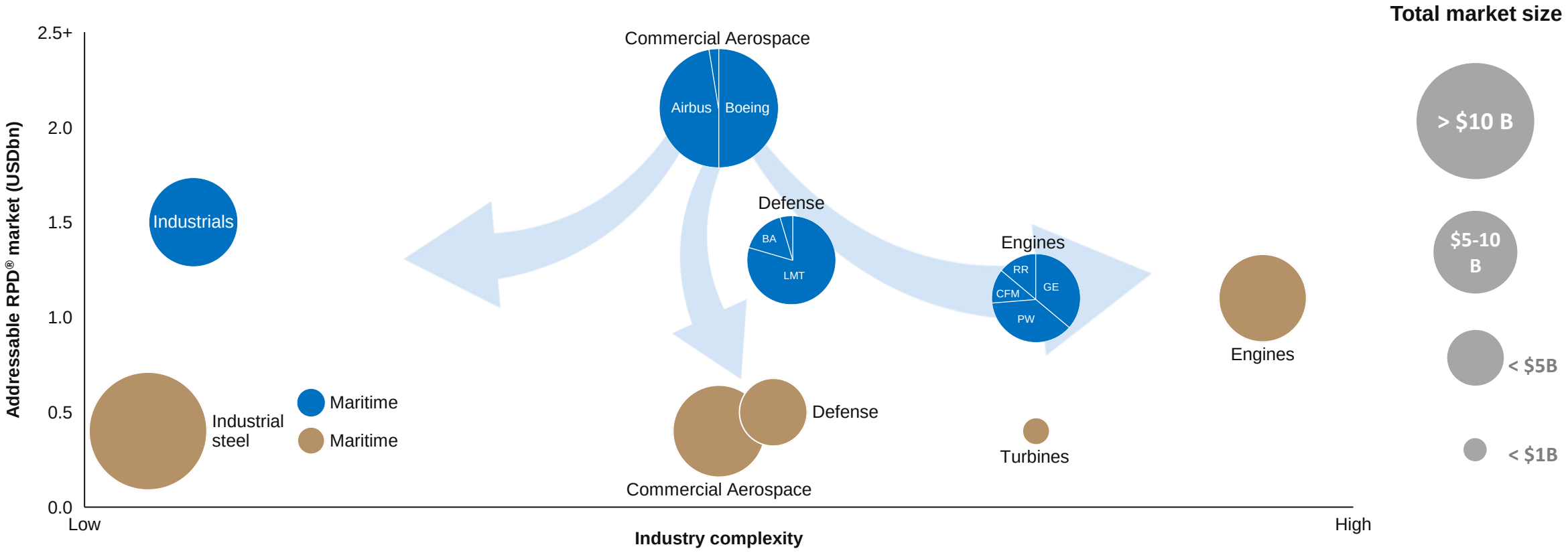
Part Development & Qualification (3 - 6 months)
- Part Design
- Destructive Testing & Qualification

Transition to Serial Production (2 months)
- First part qualification

Approvals in commercial aerospace enable us to go anywhere

Large potential market for 3D printed parts

Ti6-4, Titanium Alloys Other Alloys



Source: Management estimates
1) Defense Ti6-4: LMT=Lockheed Martin, BA=Boeing
2) Engines Ti6-4: GE=General Electric, RR=Rolls-Royce, CFM= CFM International, PW=Pratt & Whitney

At inflection point for exponential growth

Multiple overlapping revenue growth curves driving the success of RPD® technology

						Customer Base
Target markets	Commercial Aerospace	$13 bn market	High complexity	High Volume	In production	BOEING AIRBUS
Target markets	Industrials	$5 bn market	Low complexity	High Volume	In production	hitech
Target markets	Defense	$5 bn market	High complexity	Low Volume	In transition	NORTHROP GRUMMAN, GENERAL ATOMICS AERONAUTICAL
Adjacent markets	Repair & Aftermarket	$72 bn market	High complexity	Low Volume	In production	KONGSBERG
Adjacent markets	Engines	$5 bn market	High complexity	High Volume	In development	SAFRAN AIRCRAFT ENGINES

Source: Consultant and management estimates

Signed Master Supply Agreement in April

AIRBUS

RPD® is a direct replacement for titanium parts on current Airbus programs

- Norsk Titanium machine and process qualified to produce significant structural components
- Master Supply Agreement signed enabling recurring production buys
- Future development efforts underway
- Airbus releasing parts for serial production in waves
  - Wave 1 parts in production
  - Wave 2 parts commencing production in Q2
  - Expect follow-on parts in development this year

"The demonstration of [RPD®] serial production maturity is a door opener for larger and more spectacular components..."

Airbus Aerostructures

> 500	75	125,000
Addressable parts across Airbus platforms*	A350 and A320 built monthly*	Part opportunity per year*

USD 1.0 billion annual addressable opportunity*

*Norsk Titanium estimates

RPD® Parts Flying on Boeing Planes Since 2017

7 RPD® printed parts on every Boeing 787 Dreamliner:

Norsk Titanium sells parts to Boeing through tier-1 suppliers

- Received a direct purchase order for parts in serial production from Boeing
- Engaged with Boeing on funded development engagements
- Re-engage with Boeing supply chain to transition additional B787 parts to serial production

> 1 000	75	250 000
Addressable parts across Boeing platforms*	B787 and B737 built monthly*	Part opportunity per year*

$1.5 billion annual addressable opportunity*

*Norsk Titanium estimates

RPD® Qualification for US DoD Applications

Prime contractors applying multiple approaches for transition to RPD®

Norsk Titanium is positioning as a secure source of specialty metals for national security needs – Expected to account for ~20% of 2026 revenues

- Prime defense contractors are looking for alternatives to traditional supply chains, as casting & forging lead-times have become unresponsive
  1. **Northrop Grumman:** Specification established, flight-critical parts delivered
  2. **General Atomics:** Full-scale article testing ongoing; Part demonstration and part specific qualification
  3. Undisclosed space application development underway
  4. **Bechtel** nickel-based superalloy development underway
- Casting & forging suppliers are also evaluating RPD® as a complement to their product lines
- Significant US-Norwegian reciprocal defense spending underway

NORTHROP GRUMMAN

GENERAL ATOMICS AERONAUTICAL

BPMI

BATTELLE

Space Application

ASML Uses RPD® for a Critical Production Element

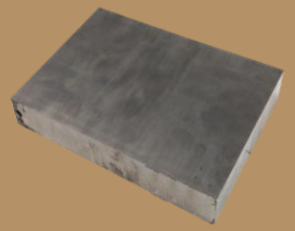
Transitioning all forged block procurement to RPD® in a response to massive demand growth

ASML

Less CNC Machinery Required and Reduced Part Cost

Legacy Block

220 kg Forged Block



***15 000 kg** additional machining required per year*

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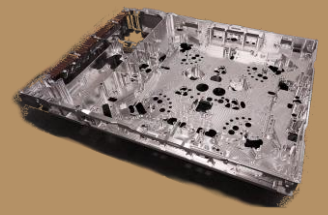
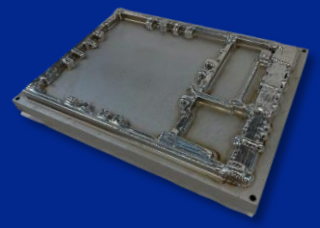


Norsk Titanium

90 kg RPD® Print



***Saves 2 CNC machines,** or $10 million capital investment*

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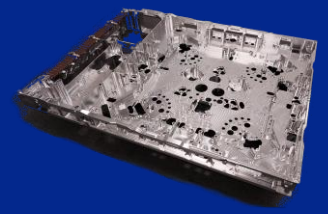


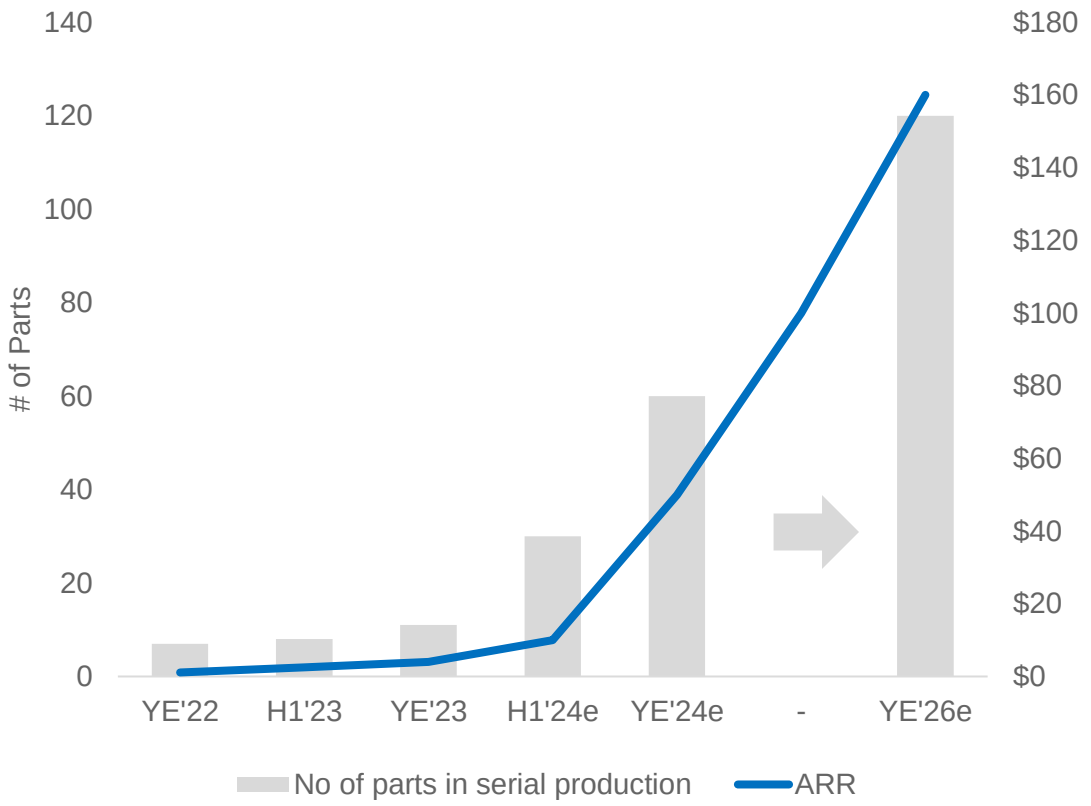
CNC: Computer numerical control machine

- In 2023 transitioned in the first carrier tray into production and supplied to Hittech for installation on ASML's assemblies
- Received follow-on order for the carrier trays
- Engaged with Hittech and ASML to transition a similar carrier tray on ASML's other products
- Significant percentage of short-term revenue driven by ASML demand

Reaching the revenue inflection point

- 2024 revenue target of USD 15 million
- ARR forming revenue baseline for the following year
- ARR development towards USD 50 million in 2024 represents a stepping stone towards the 2026 revenue target of USD 150 million – of which USD 120 million from parts in serial production

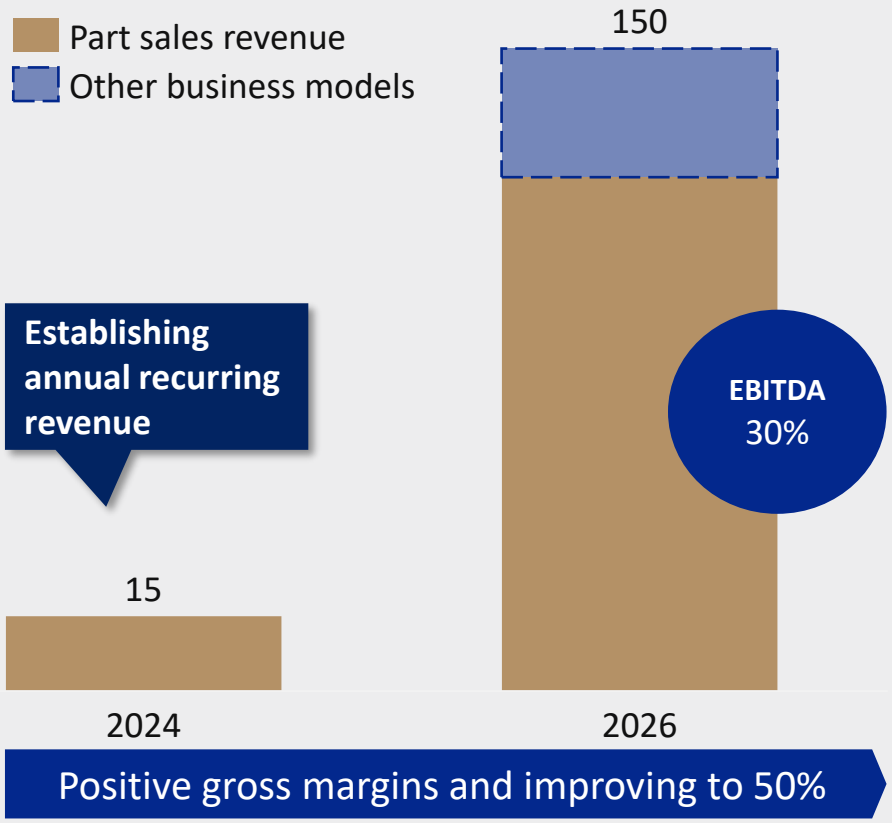
No. of serial parts in production and ARR from parts ($m)



Global Titanium Challenges Can Accelerate RPD® Adoption

Qualifications completed with Airbus, Boeing and ASML - focus in 2024 on transitioning parts to serial production

Revenue Targets *($ in millions)*



- Rapidly expanding parts revenue from target markets
  - High complexity Commercial Aerospace parts as main growth driver
  - High volume parts from industrial second growth driver; short term volume driven by Hittech/ASML demand
  - Smaller volumes of larger parts from Defense industry
- Other non-recurring business models adds upside potential
  - RPD® machine sales, IP licenses, JVs, and other being evaluated
- Contribution margins from part sales set to increase from 30% in 2024 to 50% in 2026 with increased scale
- Targeting an EBITDA margin of 30% in 2026
- More than $400 million invested over the past 12 years

Establishing a Multi-year Backlog

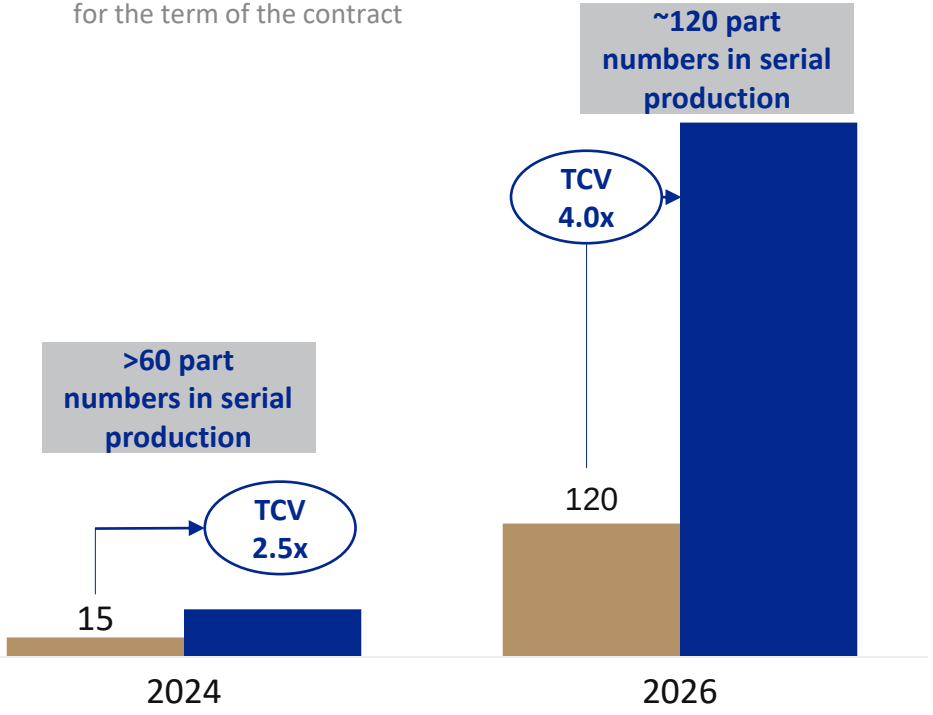
Each part adopted on a platform secures multiple years of contractual revenue

Recurring revenue dynamics *($ in millions)*

Part sales revenue

Total contract value (TCV)

Estimated lifetime value of recurring revenues for the term of the contract



2026 revenue backlog

Forecasted revenue and backlog build-up by 2026

Target markets	Annual parts produced	Contract years	% Market penetration
Commercial Aerospace	20,000	5	3.0%
Industrials	15,000	2	0.5%
Defense	3,000	5	5.0%
Total / average	**38,000**	**4**	**< 3%**

Unique parts in production	120
RPD® capacity utilization	50%

Norsk Titanium set for take off

USD 450m
invested*

~USD 180m
market cap

35 machines
700 tons capacity

Parts supplier
Direct replacement

USD 300m
revenue capacity

190+ patents
granted

US & Norway
locations

115+
employees

Material specification
Qualified

3 markets
presence

BOEING
AIRBUS
SPIRIT AEROSYSTEMS
PREMIUM AEROTEC
NORTHROP GRUMMAN
hitech
GENERAL ATOMICS AERONAUTICAL

* USD 325m equity plus USD 125m New York State grant