

## Norsk Titanium - World leading in Structural Additive Components

Norsk Titanium is a global leader in metal 3D printing, with its proprietary Rapid Plasma Deposition (RPD®) technology and the world's largest 3D printing facility in Plattsburgh, New York. Compared to traditional technologies, RPD® uses 25-75% less material, requires 50-75% less machining, and is 5-20 times faster. This enables Norsk Titanium to offer major cost savings, reduced lead-times and supply chain cost, and significant reductions of environmental footprint for industries using structural and safety-critical titanium parts.

Commercial efforts are initially focused on a select group of industries for which the adoption of 3D printed titanium parts will add substantial value, starting with commercial aerospace. Strict quality requirements and long qualification programs ensures the quality of the RPD® technology, leading up to Norsk Titanium being the first to fly structural components on a commercial airliner. The company has commercial agreements with Airbus, Boeing, Spirit AeroSystems, GKN, and Leonardo, with full rate deliveries to Boeing's 787 Dreamliner production demands continuously since 2017.

From established commercial agreements with Tier-1s in the aerospace industry, Norsk Titanium is progressing towards other industries. With ongoing qualification programs in the defense industry, qualification orders for industrial components and identified opportunities in other industries, Norsk Titanium sees a large potential for long-term value creation and a disruptive change.



Norsk Titanium US Production Floor – Plattsburgh, New York



CEO, Michael Canario

## CEO Update

Commercial aerospace travel continues to rebound, with the majority of the growth is in US domestic and European continental markets. International travel lags as governments resolve travel restrictions between countries. This caused Boeing and Airbus to focus near-term production on narrow-body deliveries while adjusting wide-body production rates to meet airline needs. In addition to the pandemic related issues, Boeing continues to resolve multiple quality issues which has further delayed Boeing 787 deliveries. We expect it will take until mid-next year before stability returns to the Boeing 787 delivery schedule. Throughout these issues, we continue to be engaged and under contract with Boeing and Airbus to transition RPD® technology through their qualification processes and into full rate production. In addition to our continued effort in commercial aerospace, Norsk Titanium has been actively engaged with high demand industrial semiconductor equipment manufacturers and defense contractors.

## Highlights from the third quarter 2021

Norsk Titanium continues to achieve 100% on-time delivery to tier-1 Boeing suppliers. In addition, the company made progress in ongoing qualification programs and testing during the third quarter. Subsequent to the quarter end, Norsk Titanium launched its RPD Builder™ software development kit which ultimately produces the code needed for any Merke IV® RPD® machine to print preforms regardless of location. It enables users to rapidly translate complex part geometries into optimized RPD® form designs independent of Norsk Titanium’s engineering team, significantly reducing part development timelines without compromising product quality. Initial application comes as Norsk Titanium expands to markets beyond commercial aerospace.

### Q3 2021 Operational highlights

- Development of first production part to a US Department of Defense (DOD) prime contractor
- Delivery of 20 serial production parts to the Boeing 787 program
- Finalization of Airbus test plan for full machine qualification
- 13 new patents issued since last publication, with another 52 patent applications pending

In the third quarter, the company generated USD 0.01m from the delivery of 20 parts under serial production contracts and USD 0.26m from funded development efforts with US DOD prime contractors and other customers. Average monthly cash burn rate was slightly higher than in the previous quarter at USD 2.16m due to increased activities but remains within our year-to-date target. With an ending cash balance of USD 28.20m, the company is expected to fund operations to the end of 2022.

Key financials* (USDm)	Q3'21	H1'21	YTD'21
Revenue	0.01	0.26	0.27
Customer funded development	0.26	0.26	0.52
Average monthly cash burn rate	2.16	1.73	1.87
Ending cash balance	28.20	35.15	28.20

\*Unaudited

## Q3 2021 Technical and operational review

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### Foundational Principles

*Repeatable, Scalable and Robust RPD® Process Measured Through a Robust Data Management Platform*

Our engineers are pioneers in industrializing a large-scale additive manufacturing process, continuously developing evermore innovative processes to streamline the programming, development and testing of large parts. With the assistance of the grant from Innovation Norway, Norsk Titanium automated the programming and simulation of the RPD® process for a production scale part. Other key projects include micro-porosity control and material property improvements. The RPD® technology and platform is now protected by a total of 140 patents, of which 13 new patents were added to the portfolio with a further 52 patent applications pending.

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### Operational Principles

*Excellence Through an Organization that Improves Velocity of Business Processes for Customers*

During the third quarter Norsk Titanium continued its perfect on-time delivery of serial production parts to Leonardo and GKN Aerospace. Serial production quantities continue to be depressed due to low-rate production of the Boeing 787 program. 20 parts were delivered during the third quarter. On a high note, we completed and delivered 15 development parts under the ongoing qualification program with a US DOD prime contractor.

Norsk Titanium is proud to have received approval from Boeing to transition recurring serial production to our new Plattsburgh Production Center (PPC). This is an important step as we continue to mature operations and transition from our smaller facility, Plattsburgh Development and Qualification Center (PDQC). We are excited to start producing parts from our state-of-the-art production center. Our first PPC recurring production deliverables will be produced in the fourth quarter.

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### Market Penetration Vision

*Competitive Parts Production in Commercial Aerospace and Diversified Structural Titanium Market*

Norsk Titanium continues to execute our commercial aerospace market penetration plan. We are coordinating with Boeing to test RPD® material for increased applications on their platforms. Temporary constraints within the Boeing supply base have impacted the scheduled transition of our next parts. We have worked to resolve the constraints and are developing transition schedules with our customers that will deliver production parts in the second quarter 2022. Machine qualification for Airbus applications is ongoing with initial production trials expected in 2022.

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### Expanded go-to-market strategy

*RPD® Adaptability in New Markets through Diversified Superalloys and Strategic Markets*

Our qualification and demonstration program with a US DOD prime contractor is progressing. Norsk Titanium delivered the initial material for the test program in the quarter and is progressing to initial part production in 2022. We conducted RPD® component level testing with another prime contractor in the quarter with results expected to be published before the end of this year.

Development of our industrial market semiconductor equipment demonstrator with Hittech progressed in the third quarter with planned delivery of the test component scheduled for the next quarter. Hittech plans on final machining and testing of the component with the end customer in 2022 with serial production planned following testing.

