ALMA-TECH

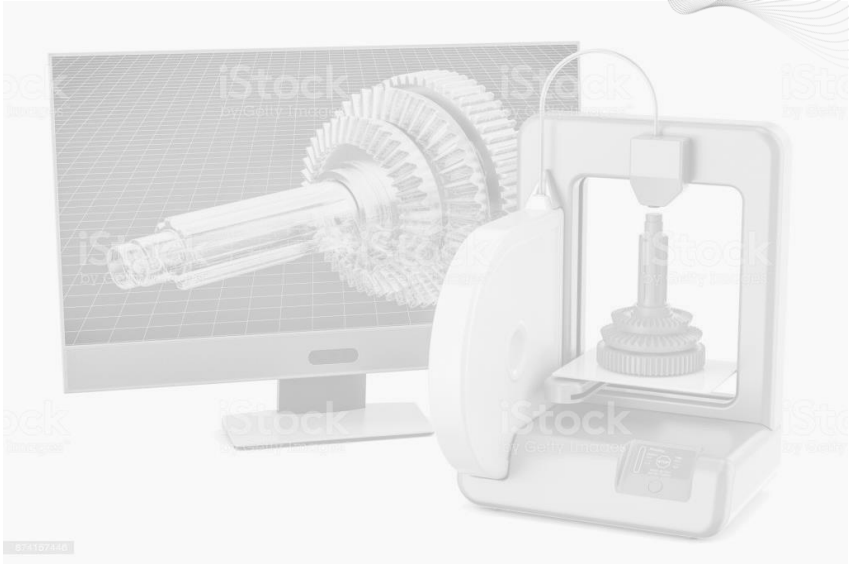
“Metal 3D-Printing for Remote Industries”

Founders
Alireza Vahedi Nemani
Mahya Ghaffari

ALMA-TECH

For remote industries (such as offshore Oil & Gas) who are looking to reduce inventory stock and downtime costs, Alma-Tech enables on-demand, on-site 3D-printing of spare parts.

Unlike other players, Alma-Tech provides end-to-end implementation of 3D-printing technology including assessments, adoption, integration, training, and maintenance.



Team

Founders

Alireza Vahedi Nemani
Co-founder & CEO
PhD Candidate
(Materials Engineering)

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Mahya Ghaffari
Co-founder & CTO
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Advisors

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Assistant Professor & Canada Research Chair, Ocean Engineering

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Harsimran Malhi
Business Advisor
7 years in Oil & Gas
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Support Network

Margaret Palmeter
Incubation Support
Director, Emera IdeaHub

Emera ideaHUB

Martin J. Yuill
Mentor Support
Executive Director, CleanTech Commons

Cleantech Commons

Gillian McCrae
Mentor Support
Business Consultant

Wendy Vrooman
Mentor Support
CEO, Arc

Reliable spare parts supply is critical for remote industries.

Remote industries have difficult access to the bulky metallic spare part inventory.

Chopper
- Fast ✓
- Costly ✗
- Light loads ✗

Supply Vessel
- Cheaper ✓
- Heavy loads ✓
- Slow ✗

A damaged critical part results in

- Process Shutdown

- Costly Downtime

- Safety concerns

Inventory repercussions are at unacceptable levels for remote industries.

E&P companies maintain a large costly inventory of rarely used parts due to large supply lead times and component criticality.

“There is up to 88 million dollar downtime cost annually”

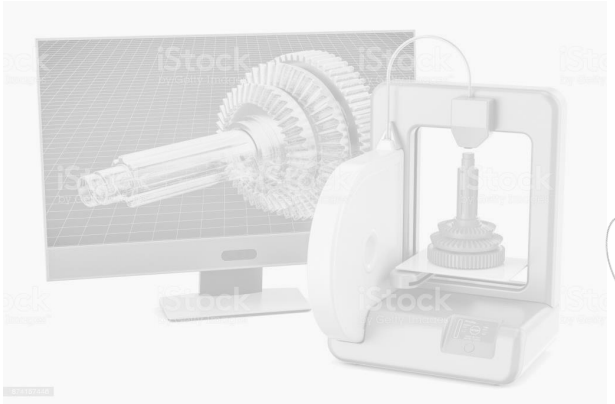
Reported by GE Oil & Gas

“80% of the physical inventory with the worth of 4.5 billion dollar is unused”

Head of AM strategy equinor

On-demand Digital Inventory is the Solution.

- Shift to **digital inventory** from physical inventory
- Print your parts **on-site** and **just-on-time** instead of storing just-in-case



On-demand Digital Inventory is the Solution.

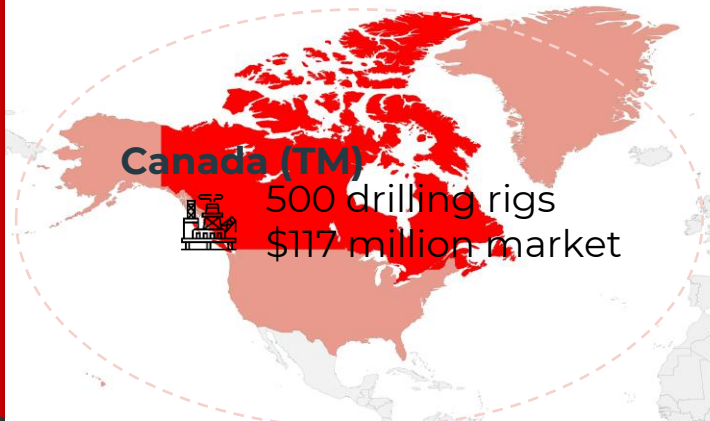
Just-in-case Philosophy (by OEMS)

- Large lead time
- Large inventory carrying costs
- Inventory wastage due to obsolescence
- 100% replacement of worn parts
- Considerable CO_2 footprint due to required transportation

Just-on-time Philosophy (by ALMA-TECH)

- Shorter lead time
- Downsized warehousing
- Flexible designing
- Worn parts can be repaired
- Lesser CO_2 footprint due to reduced transportation

Our global market is worth $1.4 billion.



Canada (TM)

500 drilling rigs
$117 million market

North America (SAM)

1500 drilling rigs
$350 million market

Globally (TAM)

6000 drilling rigs
$1.4 billion market

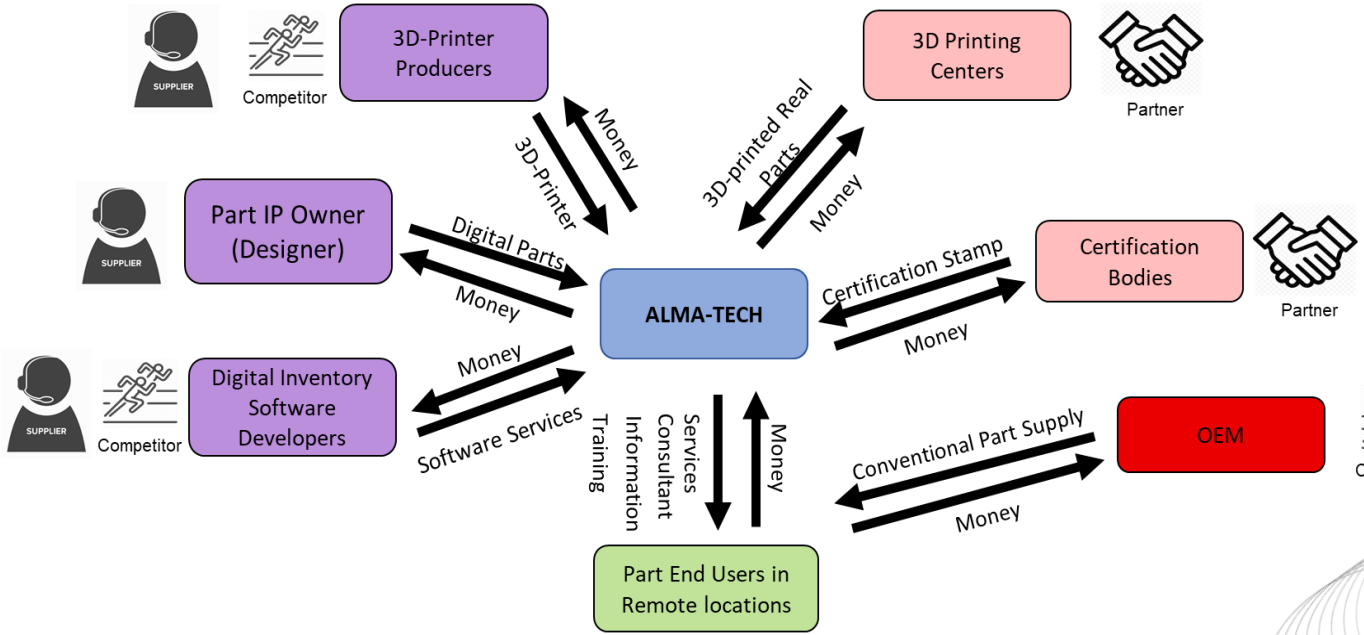
Assumptions:

Initial set-up charge per rig → $90,000

Monthly support charge per rig → $12000

Revenue per rig per year → $234,000

Ecosystem (Partners, Suppliers, Competitors)



Legacy supply chain

Original Equipment Manufacturers

(OEMs)

Strength of the OEMS

- ✓ Established business case
- ✓ Long and lasting relationship with end-users
- ✓ Already have the **Certification Stamps**

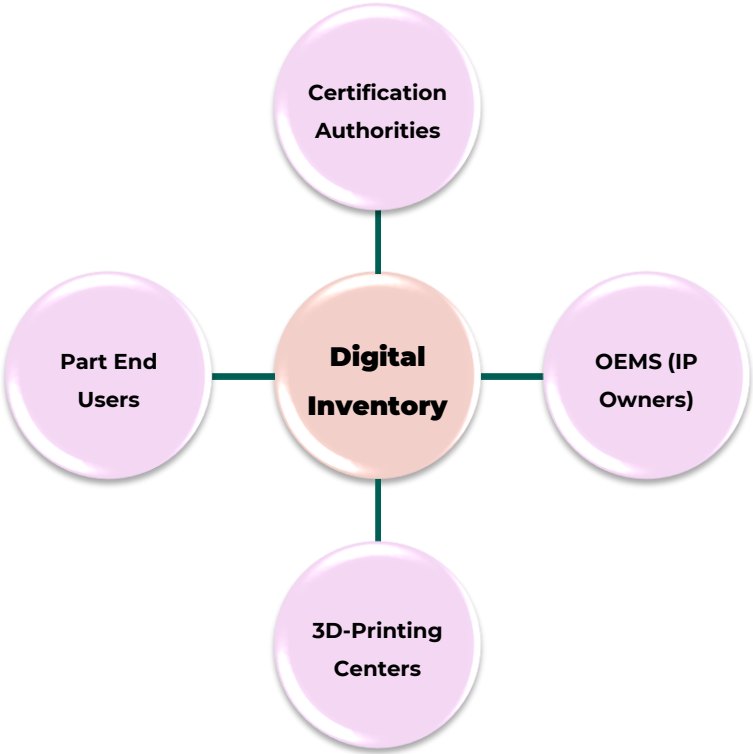
Weaknesses of the OEMS

- ✓ Long lead-time
- ✓ No design flexibility
- ✓ High carbon footprint

This is our current main challenge!!!

How our Product/Service Works?

Software



Hardware

Milestones

- Proof of concept
- Obtain the trust of the customers
- Parts quality evaluation
- Certification stamps

Done (9 publications)

1- Plain Carbon Steels

Applications:

- Ship bow plate
- Pipelines
- Structural Components

2- Stainless Steels

Applications:

- Reactor piping
- Risers
- Cyclones
- Overhead condensers

Jan 2019-Feb 2021

Current Step

1- PH Martensitic S.S.

Applications:

- Fractionators
- Reactor nozzles
- Stabilizer Components
- Reactor shell clads
- Pumps
- Etc.

July 2021 – Feb 2022

Future Steps

1- Non-Ferrous Alloys

- Aluminium
- Copper
- Nickel
- Titanium
- Etc.

2022 –2023