

3D-vallankumouksen suunnittelu 12.03.2019 Johannes Karjalainen



Who am I?

- Johannes Karjalainen
- AM Specialist
- Working in Etteplan since September 2016
- M.Sc. in mechanical engineering
 - Product development
 - Production technology
 - Hydraulics





Etteplan - a growth company

Rapidly growing and developing engineering services company

Our customers are global machine and equipment manufacturers

We stand out by the high-level competence and service attitude

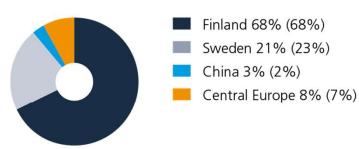
Founded 1983 | Nasdaq Helsinki Ltd





> 3,000 NUMBER OF PERSONNEL

Revenue by geographical area 2017 (2016)

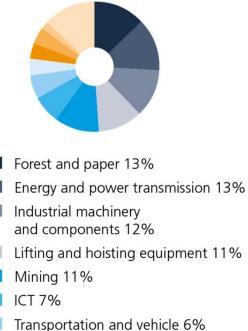


Revenue by service area 2017 (2016)

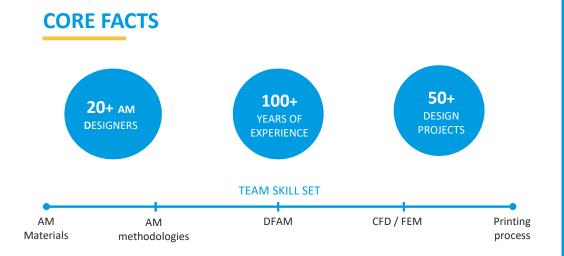


- Engineering services 56% (61%)
- Embedded systems and IoT 25% (19%)
- Technical documentation 19% (20%)

Revenue by customer segment 2017



- Iransportation and vehicle 6%
- Aerospace and defense 4%
- Medical technology 4%
- Metal 4%
- Consumer products 2%
- Others 13%



HOW WE WORK

We believe in making ideas concrete very *early, delivering cost estimations to support decisions making and working closely with our customers to ensure AM feasibility.*

STRONG DOMAINS



Traditional industry

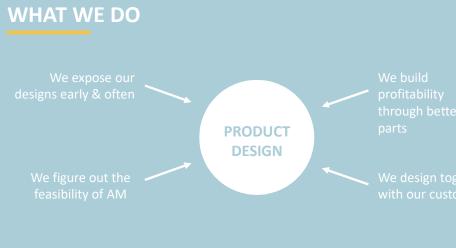
Simulation driven AM design



AM Business case creation

Commerce & strong partner network

And many more...



FEtteplan

THE FUTURE OF ADDITIVE MANUFACTURING







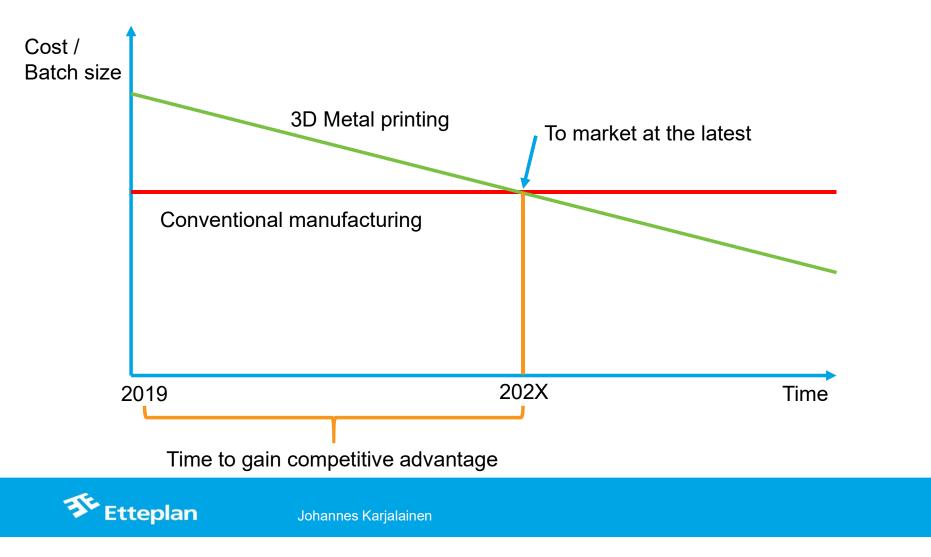




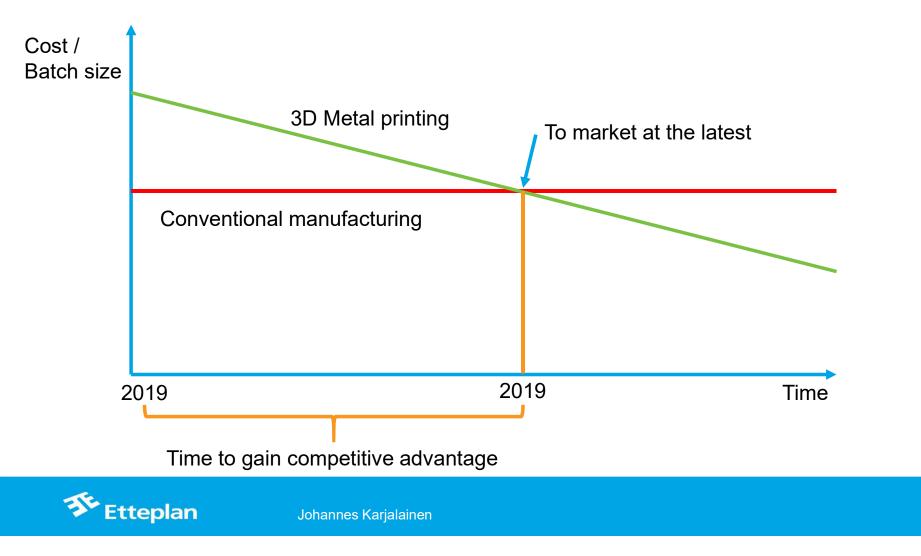
ADDITIVE MANUFACTURING NOW



Manufacturing cost development



Manufacturing cost development



PLANNING 3D REVOLUTION



Steps to AM success



				received from AM
		STEP 3	-AM has positive effect on companys cashflow	-Well defined AM processes
			-Multiple end use parts in production	-Full utilization of all possibilities of AM
	STEP 2 -3D printed prototypes	-First AM designs -3D printed parts in production, tools or	-AM integrated as part of R&D activities	-AM fully integrated and considered as normal R&D
STEP 1 -3D Printing?	-Basic understanding of AM technology	end use products	-First prototype parts with dynamic loads	-Critical parts with dynamic loads in Production

STEP 4

Ftteplan

Additive Manufacturing partner





Most of our references are confidential, but here are some that we can share...



Sandvik AM pilot case

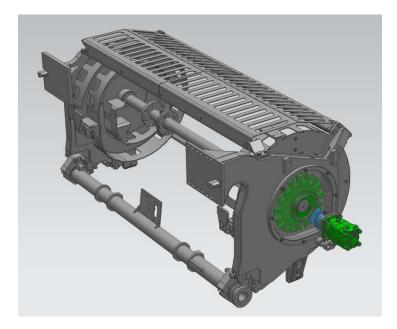


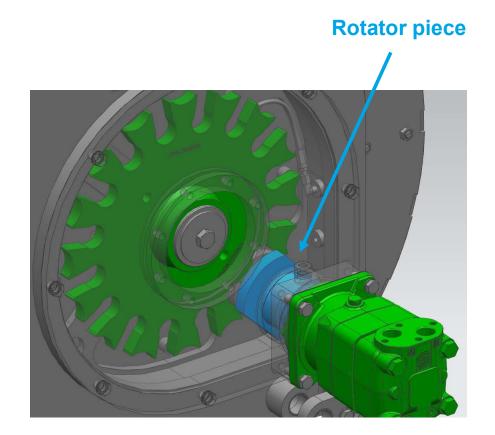






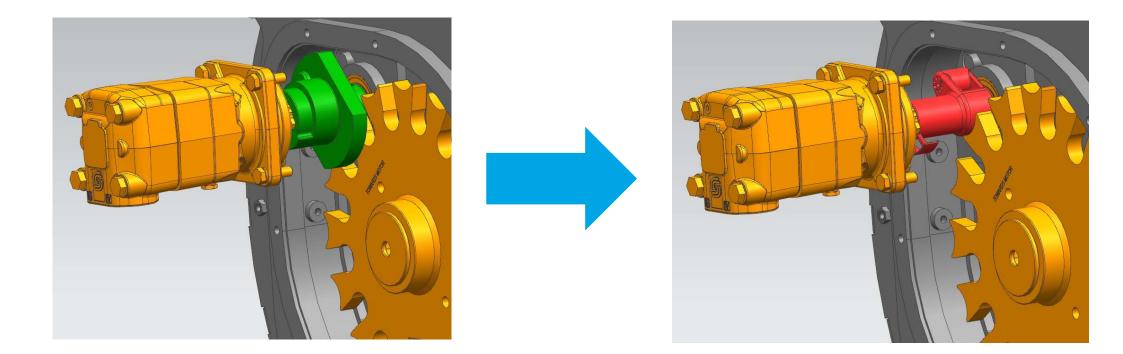
Geneva drive rotator piece



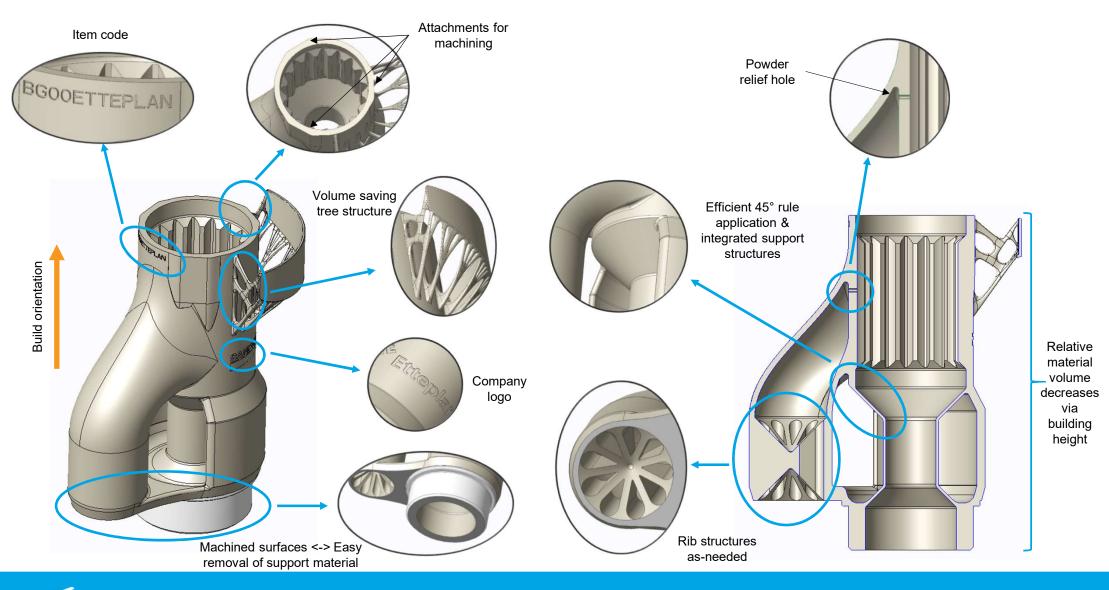




Background







FEtteplan







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