Digital Economy: A Proven Asset for Offset

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Content

Dassault Systèmes

Dassault Systèmes Offset Solutions

Project exemple: Multicut (Denmark)

Conclusion
Dassault Systèmes within Dassault Group
Our Company

a Scientific company

Combining Science, Technology and Art for a sustainable society

16,000 passionate people

- 124 nationalities / 179 sites
- One global R&D / 64 labs
- Game changing 3DEXPERIENCE solutions

210,000 enterprise customers

- 12 industries in 140 countries
- 25 million users

12,600 partners

- Software, Technology & Architecture
- Content & Online Services
- Sales
- Consulting & System Integrators
- Education
- Research

Long-term driven

- Majority shareholder control
- Revenue: €3,242.0 million*
- Operating margin: 32%*

* Figures as of FY 2017 / Non-IFRS
Our Clients: Industry leaders at the heart of innovation

**Transportation & Mobility**

- Toyota
- Honda
- Volkswagen
- Jaguar
- Tesla
- Hyundai
- Michelin
- Ashok Leyland

**Aerospace & Defense**

- Boeing
- Airbus
- Safran
- Lockheed Martin
- Bell
- Bell
- Northrop Grumman

**Marine & Offshore**

- Damen
- Deltamarin
- Meyer Werft
- Isownaval
- DSME

**Industrial Equipment**

- Doosan
- Bosch
- AGCO
- Bobst Group
- Maschino Graziano
- Konstrukta

**High-Tech**

- Aldebaran
- Lenovo
- Huawei
- Hitachi
- Fujitsu
- Samsung
- Atmel

**Consumer Goods - Retail**

- P&G
- Amcor
- Tetra Pak
- Danone
- L'Oréal
- L'Occitane

**Consumer Packaged Goods - Retail**

- P&G
- Amcor
- Tetra Pak
- Danone
- L'Oréal
- L'Occitane

**Life Sciences**

- Olympus
- Medtronic
- GTE Healthcare
- Sanofi
- J&J
- AkzoNobel
- Bayer
- Pfizer
- Stryker

**Energy, Process & Utilities**

- CEA
- Enery
- Hydrochina
- Posco
- Tata Steel
- Saint-Gobain
- Saipem

**Architecture, Engineering & Construction**

- SHP
- Zahner
- Arup
- Permasteelisa

**Financial & Business Services**

- BNP Paribas
- PwC
- Deloitte
- PwC
- Consip

**Natural Resources**

- Rio Tinto
- AEM
- Cemex
- Lafarge
- De Beers
- AngloAmerican
- AngloGold
Our Purpose

"Dassault Systèmes provides business & people with 3DEXPERIENCE universes to imagine sustainable innovations capable of harmonizing product, nature and life."

"
Our Legacy

3D DMU
Digital Mock-up

3D PLM
Product Lifecycle Management

3DEXPERIENCE®
Business Experience
3D Design to replace the drafting table
Digital mock-ups to replace physical prototypes
3DEXPERIENCE Powers our Brand Applications for 12 Industries
The digital world to improve the real world

Cities for People  Sustainability  Global and Personalized Health  Industry Renaissance  Workforce of the future
Cities for people

Federate, Simulate, and Imagine the city of the future with the 3DEXPERIENCE City platform
Sustainability

Solar Impulse 2: Plane does not need fuel to fly, only the sun’s energy

CHIDI: Award-winning hydropower champion
Sustainability

Model and simulate our planet, improving predictability, efficiency, safety, and sustainability throughout the natural resources sector with 3DEXPERIENCE Platform
Global and Personalized Health

Personalized Treatment

CE mark for new TAVI simulation software

FE_ops has received the CE mark for its transcatheter aortic valve implantation (TAVI) simulation software. The TAVIguide technology is designed to revolutionise preoperative planning for TAVI by providing insights into the interaction between a patient’s native aortic root and the aortic valve. The company reports that clinical evidence shows that implementation of the software enables optimisation of the treatment planning by carefully evaluating the impact of device size and position prior to the intervention, in a patient-specific manner.

A press release reports that the tool will become available early 2016 for individual patients in routine clinical practice in Europe and that it is expected not only facilitate TAVI treatment planning for the clinicians, but most importantly will aid in reducing the occurrence of life-threatening complications, such as paravalvular leakage and conduction abnormalities.
Workforce of the future

Virtual labs for **massive training programs and skills perfection**. Learning production operations to allow optimized fabrication on site.
Workforce of the future

Exposing new generations to the new world of making and customization
Content

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Project exemple: Multicut (Denmark)

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References

Unequalled experience in Offset and international networking for our customers

- Canada, Denmark, Greece, Korea, Norway, South Africa, Switzerland, Taiwan, United Arab Emirates (UAE), UK
- Boeing, Dassault Aviation, Airbus, Leonardo (Alenia), Lockheed Martin, Sikorsky, Thales, Pilatus
- Member of major Offset associations
Digital economy offset projects
Leveraging 3DS’ recognized PLM technology and industry expertise
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Dassault Systèmes Offset Solutions

Project exemple: Multicut (Denmark)

Conclusion
Multicut A/S
Your supplier for precision Manufacturing
LEAN DIGITAL MANUFACTURING
OFFSET PROJECT
History and Facts

The Company was founded in 1998 by Lars B. Rasmussen and Tommy L. Kristensen are the owners, and the daily management.

The company philosophy was right from the start based on lean machining using CNC machines linked with robots/material handling systems. (use common sense)

Due to this philosophy the company has had a tremendous growth and today Multicut has more than 70 CNC machines and 52 robots/material handling systems linked together in work-cells. In the company’s 19 years history the production area has expanded to 28,000 m² (280,000 ft²).

2010 First order to defense customer.
2011 Sales offices in USA.
2012 Daughter Company in LITHUANIA.
2013 First order from civil Aerospaces.
2015 New factory, including new saws for cutting of raw materials.
2016 New factory, for assembly.
2016 New factory, including new robot and manipulator for welding.

Recently Milestones:
- 2017 Acquisition of the company IMERS.
- May 2018 Opening new factory 100% ITAR secured 4,500 m² (45,000 ft²)
Revenue and Salary in USD per. employee per. year.

China, Poland, Germany, USA, Denmark, Multicut

>400,000 USD in revenue per. employee

- Revenue per. employee
- Salary per. employee
Boeing Helps Prepare Danish Machining Firm Multicut for Aerospace Quality Management System Certification

VILDBJERG, Denmark, Feb. 11, 2010 — The Boeing Company [NYSE: BA] this week launched an industrial-cooperation project to assist Multicut, a high-end machining firm based in Vildbjerg, as it pursues AS/EN 9100 certification. This project supports the Boeing industrial-cooperation program that is tied to Denmark’s New Combat Aircraft competition. The Boeing F/A-18E/F Super Hornet strike fighter is a finalist in the contest.

The project began with a Boeing Supplier Quality expert training Multicut’s employees on the quality management system (QMS) requirements used across the aerospace industry. Over the coming months, the Boeing expert and a third-party QMS specialist also will assess Multicut’s overall operations in preparation for its AS/EN 9100 certification audit later this year, and provide any necessary follow-up guidance.

“As a company with a clear goal to expand into the global aerospace market and preserve jobs for Danish industry workers, it is invaluable for us to tap into Boeing’s quality management system expertise,” said Frank Dühring, Business Development manager for Multicut. “The training and assessments will help us gain AS/EN 9100 certification, which is a ‘must have’ for winning subcontracts from the main players in the aerospace industry.”
• The biggest forging house in Europe for Aluminum, Titanium and Inconel parts for leading industries such as Automobile, Transportation and Aerospace's, has those'd Multicut to be machining supplier for the parts where there customer's are requiring them to deliver a finished part.

• This relationship introduce Multicut to new materials and move our capability to a new level.

I know from the team responsible for finish machining, that they consider Multicut as a very reliable company. You hold your promises and deliver best quality.

Being in the metal business for quite a while I can say that trust is something which is essential, but hardly to be found in the business environment we have right now.

I really hope that we find opportunities to increase our business relationship, and I will keep my ears open in case there are possibilities for new project.

“Christian Rieger” (VP Sales)
Global Costumer Base

Energy
- ABB
  Power and productivity for a better world™
- HYDRA
- Siemens
  Siemens Wind Power
- Vestas
  Wind. It means the world to us.

Machine Building
- Atlas Copco
- FFG
  Flensburger Fahrzeugbau
- HMF
  - power to lift.
- Volvo
  Volvo Construction Equipment

Transportation industry
- MAN
- MAN Diesel & Turbo
- STADLER

Other industry
- TELEDYNE TECHNOLOGIES
  Everywhere you look
- Dassault Systèmes
  The 3DEXPERIENCE® Company
- AMG
- VOLVO
  Volvo Construction Equipment
industrial cooperation + Multicut’s future needs

Phase one
- CAD/CAM
- Virtual Factory
- Data Structure/Data folders
- Life cycle management

Phase two
- Production BOM
- Offline programming and Validation
- Automated PLM processes

Phase three
- Advanced Process Simulations
- Paperless manufacturing

2016 offset project

Future offset project
End-to-end digital continuity

How does it work?

End-to-end digital continuity
When the Physical world
= IS EQUAL - to the Virtual World!

The Physical factory
(to the right)

The Digital model of the cutting tools
(below)

Virtuel Simulation of total execution time”
(above)

The physical machines
(to the left)
NC-machine programming
Digital twin: virtual = real
Operational organization

Support & technology
- Latest aerospace digital processes

Cost of technology

World-class solution integrated as a turnkey project

Technical and marketing support

Project progress reports

Inspections

Answers to information requests

Foreign OEM (offset obligor)

Offset project proposal
- Supporting documents

Project pre-approval
- Offset credits

Support & funding

Supporting documents

Multicut

DANISH BUSINESS AUTHORITY

The 3DEXPERIENCE Company
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• Digital Economy has transformed the way industry designs, makes or buys products in the sale way as Amazon or eBay have transformed the way we shop

• The most innovative countries in the world leverage this opportunity to accelerate their digital transformation

• Dassault Systèmes, working closely with its network of partners and customers world-wide proposes this type of high value offset projects