# AMbitious
POWERED BY **toolcraft**

REACH THE

# NEXT LEVEL IN AM

**TRAINING SOFTWARE CONSULTATION**

Siemens NX – Your end-to-end additive manufacturing solution.

Benefit from the data consistency offered by the leading software solution Siemens NX.

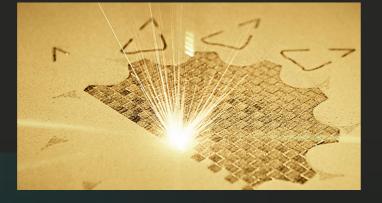**Expert Partner**

Digital Industries Software

**SIEMENS**

# SIEMENS NX – Additive manufacturing modules

Siemens NX offers data consistency and covers the entire process chain, making it the ideal choice.

## Powder bed process

The "Fixed Plane Advanced" module can be used for manufacturing on fixed planes (e.g. powder bed, jetting). It combines fundamental CAD functions with add-ons for additive manufacturing.



- Orientation in the assembly space
- Support structure generation
- Data slicing for the AM machine
- Solid modelling
- 3D nesting

- Fundamental free-form modelling
- Assembly modelling
- Facet processing

Siemens NX covers the entire process chain (CAD, CAE and CAM):



Pictures: Siemens AG

| Generative Engineering | Design for AM | AM Design Validation | Build Preparation | Simulation | Post Processing | Scheduling & Execution | Quality Assurance |

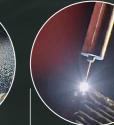## Application processes (LMD, DED, etc.)

Siemens NX is the ideal software for all industrial multi-axis technologies.



Pictures: Siemens AG

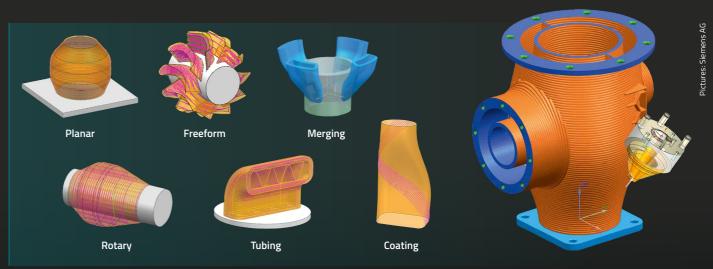| Laser Metal Deposition | Wire Arc Additive | Material Extrusion | Cold Spray | Electron Beam |

The Multi-Axis basic module covers AM-specific multi-axis CAM operations that can be both axis and robot controlled.
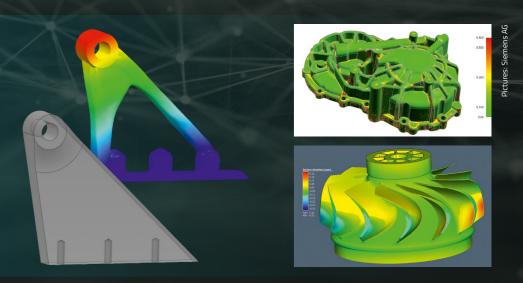


Pictures: Siemens AG

Planar    Freeform    Merging

Rotary    Tubing    Coating

Siemens NX also covers the complete process chain for application technologies:



Pictures: Siemens AG

| Component Design | Validation | Manufacturing Preparation | Multi-axis Deposition | Hybrid Manufacturing | Machine Simulation | Process Monitoring | Quality Assurance |

Other CAD/CAE modules relevant for additive manufacturing include:

- Reverse Engineering
- Topology Optimisation
- Implicit Modelling
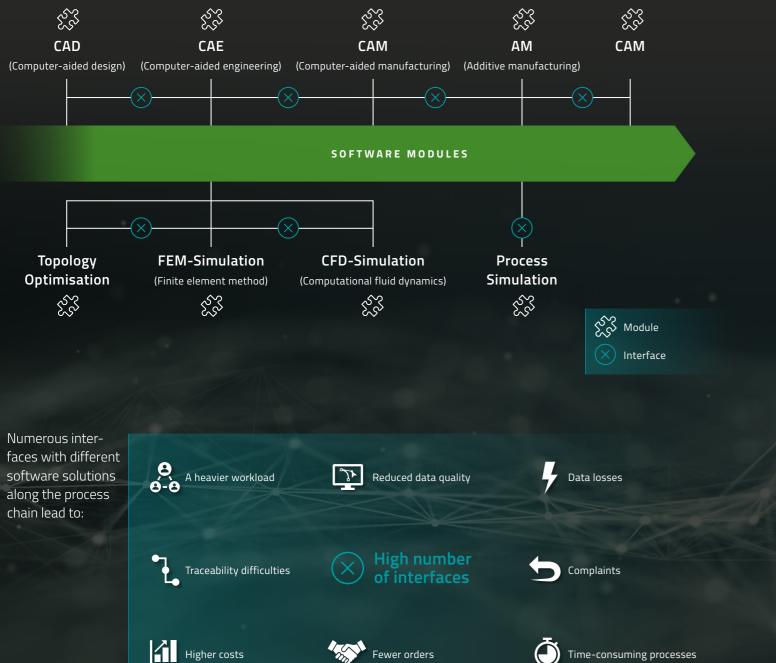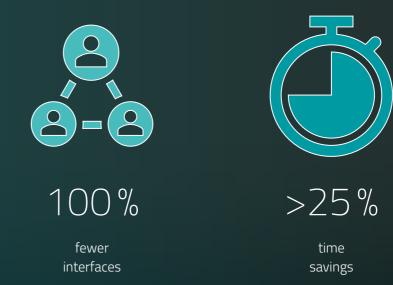- Lattice Structures
- Process Simulation



Pictures: Siemens AG

# Siemens NX – Data consistency for your digital process chain
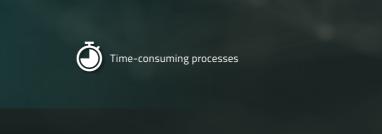
## Data consistency with no interfaces

The integration of all CAD, CAE, CAM, and AM modules into one piece of software means that users only need to work in one interface along the entire digital process chain. This allows users to avoid conversion errors and enjoy a seamless workflow. Moreover, any changes that need to be made at the end of the process can be implemented quickly and efficiently without the laborious task of changing systems.
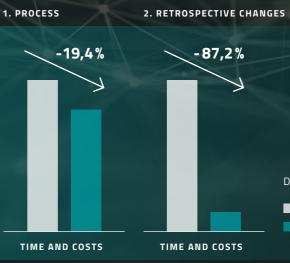
**CAD**
(Computer-aided design)

**CAE**
(Computer-aided engineering)

**CAM**
(Computer-aided manufacturing)

**AM**
(Additive manufacturing)

**CAM**

SOFTWARE MODULES

**Topology Optimisation**

**FEM-Simulation**
(Finite element method)

**CFD-Simulation**
(Computational fluid dynamics)

**Process Simulation**

Module

Interface

## Benefits of Siemens NX:

**100 %**
fewer interfaces

**>25 %**
time savings

**>25 %**
increase in staff efficiency

Siemens NX solves the problem of having multiple interfaces, while making significant time and cost savings. Using this consistent software solution results in savings of up to 20 % or more across the entire manufacturing process. Retrospective changes to the product development process can even reduce the additional time and costs involved by up to 90 %.

Numerous inter-faces with different software solutions along the process chain lead to:

- A heavier workload
- Reduced data quality
- Data losses
- Traceability difficulties
- **High number of interfaces**
- Complaints
- Higher costs
- Fewer orders
- Time-consuming processes

**1. PROCESS**

-19,4 %

**2. RETROSPECTIVE CHANGES**

-87,2 %

Data collected during a case study.

■ Use of various software solutions
■ Use of Siemens NX

TIME AND COSTS

TIME AND COSTS
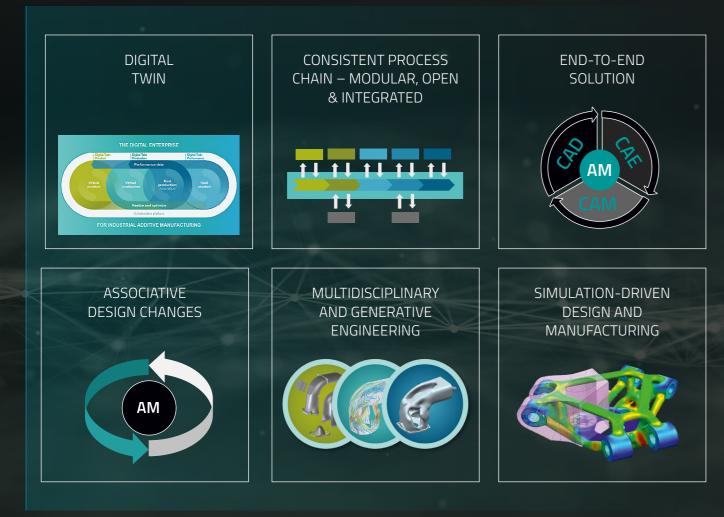
# AMbitious – Practical advice and support for use in practice

As a Siemens NX AM Expert Partner and Reseller, we can support you with the implementation and use of Siemens NX software together with its modules along the entire AM process chain.


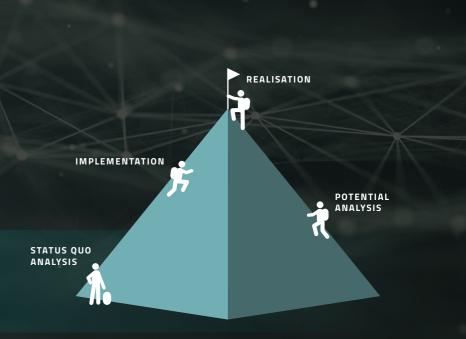
Expert Partner

Digital Industries Software

**SIEMENS**

## Why choose AMbitious?

- Many years of experience along the entire additive manufacturing process chain
- Accustomed to using Siemens NX in day-to-day project work
- Practical advice and support for use in practice
- Extensive help with getting started
- Highly responsive support
- Support with day-to-day business operations
- Up-to-date philosophy



See our detailed brochure for more information about our training courses and consultation service.



## Why choose Siemens NX?

| DIGITAL TWIN | CONSISTENT PROCESS CHAIN – MODULAR, OPEN & INTEGRATED | END-TO-END SOLUTION |
|---|---|---|



| ASSOCIATIVE DESIGN CHANGES | MULTIDISCIPLINARY AND GENERATIVE ENGINEERING | SIMULATION-DRIVEN DESIGN AND MANUFACTURING |
|---|---|---|



REALISATION

IMPLEMENTATION

POTENTIAL ANALYSIS

STATUS QUO ANALYSIS

### What's next?

Contact us to reach the next level in AM!

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