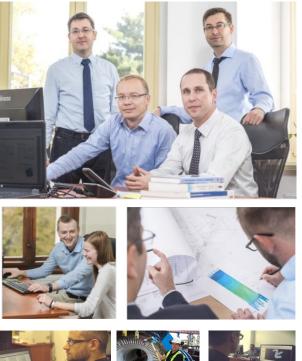
# NODO solutions

# DESIGN and R&D services for industry

# **About Nobo**

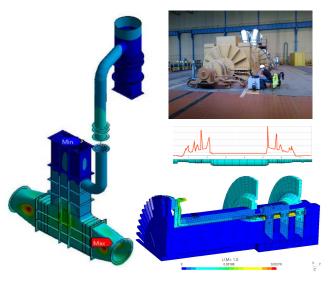
Established in 2012. Delivers R&D and design services of new products or service for its customer. Provides support for maintenance and risk management of customers existing facilities.

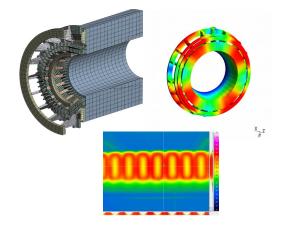
2 offices
11+ engineers
32+ satisfied customers



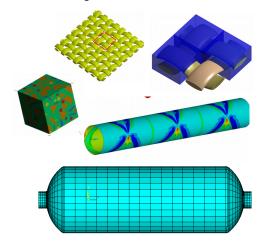
#### **Electromechanics**

#### **Power Generation**

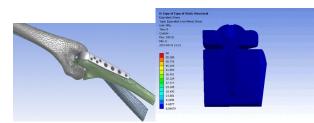




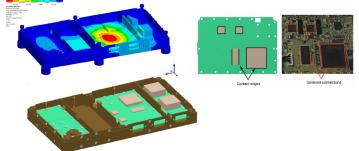
#### Composites



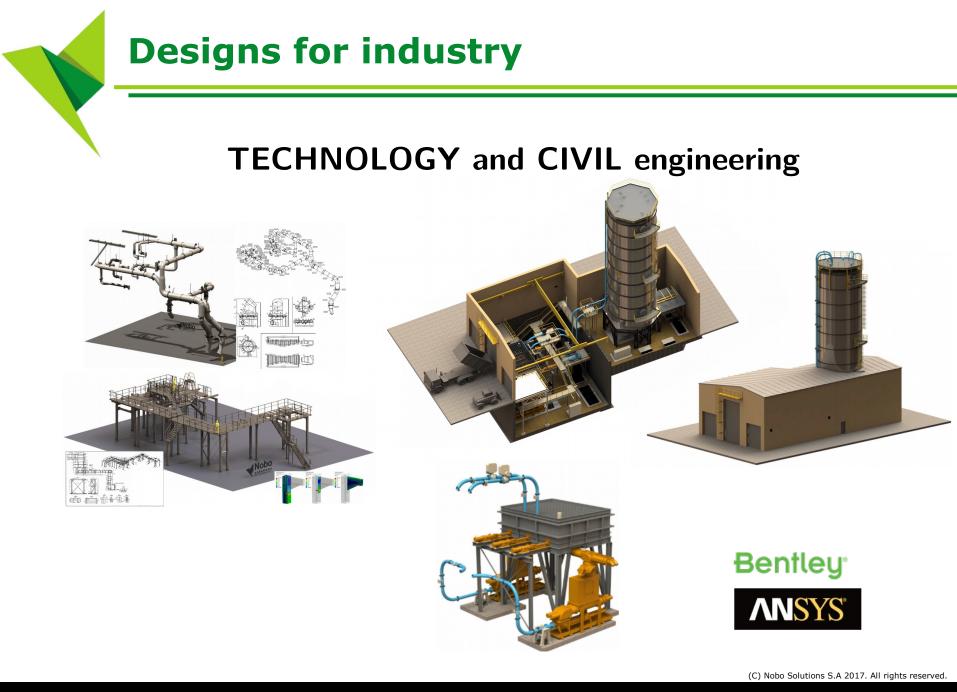
#### **Biomechanics**



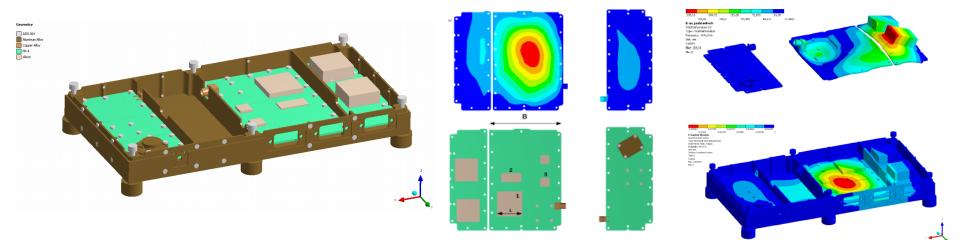
#### Space industry



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#### Analyses and simulations of satelite electronic components

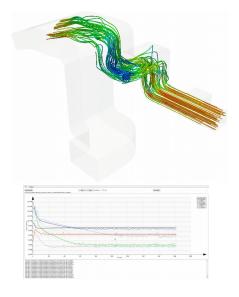


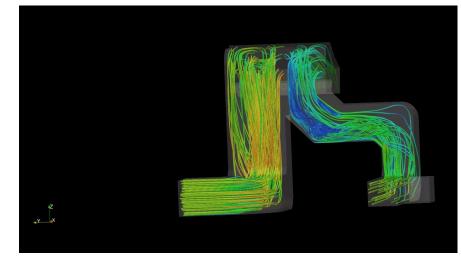
#### Scope of work

- Thermal and mechanical load
- Analyses of casing strength, electronics and PCB solder connectors

Tools

#### **Optimization of exhaust ducts**





#### Scope of work

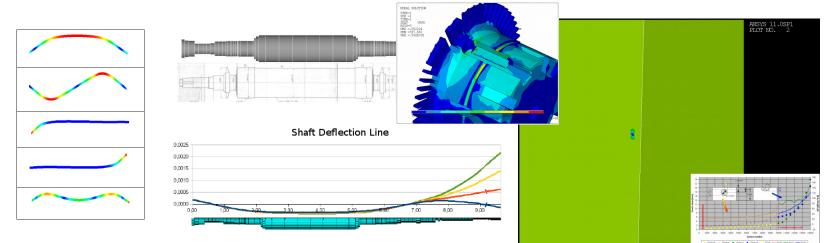
- CFD analyses
- Shape and flow velocity optimization
- Correction of unwanted phenomena in flow stream



**Tools** 

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#### Life-time of turbogenerator rotor

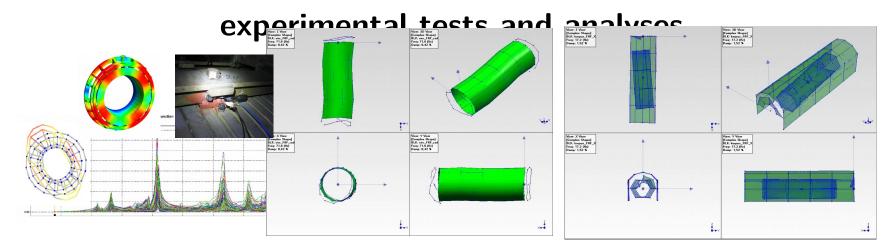


#### Scope of work

- Numerical analyses of design at rated loads
- Fatigue and fracture mechanics assessment
- Development of solution for life-time extension



#### **Turbogenerator dynamic properties determination -**



#### Scope of work

- Operational modal analyses and ODS determination at rated power
- Experimental modal analyses ad standstill conditions

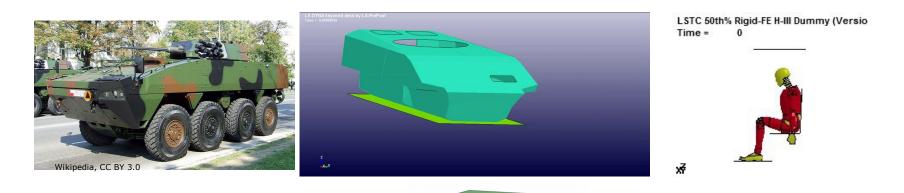






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#### Numerical analyses – explosion of military vehicle Rosomak

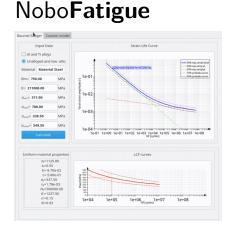


#### Scope of work

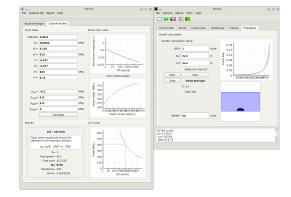
- Mechanical load on human
- Identification of potential injuries
- Finding a passive security solutions



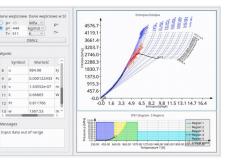
### Development of specialized solutions in IT & software



#### Nobo**Fracture**



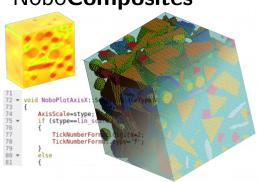
#### Nobo**Steam**



Nobo**Composites** 

#### Example of numerical solvers and support modules:

- fracture mechanics
- high-cycle and low-cycle fatigue
- material properties determination of non-homogeneous and anisotropic samples
- heat and water-steam properties



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# **Short list of our customers**

Projects for:

- Ge Power and Alstom Power (power plants: Opole, Bełchatów, Łódź, Krasnojarsk, Chmielnicki nuclear Power Plant)
- Rafako S.A
- European Space Agency (subcontracting for Wrocław University of Technology)
- YARA Environmental Technologies
- SBB Energy, G7 Project Group
- INSS-POL, Bahlsen Lorenz, Nestle Purina, Colgate-Palmolive, Mondelez
- Wrocław Medical Univeristy
- Military University of Technology
- University of Zielona Góra

# NODO solutions

*The important thing is not to stop questioning.* 

A. Einstein

#### Do you have a question ?

Do not hesitate to contact us or visit our website:

#### www.nobosolutions.com

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