

SUCCESS STORY IN Medical Devices

COMPANY XY
Mebster

THE PROBLEM

SUCCESS STORY DETAILS

HPC provider:
IT4Innovations
Domain Expert: NCC Czech
Republic
Country: Czech Republic

LINK:
<https://www.it4i.cz/en/industry-cooperation/examples-of-cooperation/exoskeleton-optimisation>

THE HPC PROBLEM DOMAIN

Structural mechanics/product
optimisation

THE SOLUTION

The computational model is based on the finite element method (FEM). The exoskeleton assembly is simulated with the inclusion of effects resulting in the strength/stiffness of the system. Since the exoskeleton assembly is mathematically a complex nonlinear problem with a wide variation of boundary conditions, the use of HPC is necessary to solve such a complex numerical model.

THE BENEFITS

- possibility of verification the safety and effectiveness of the existing product and its further versions and variants;
- increase in

SUCCESS STORY IN Energy production

THE PROBLEM

The objective of this proof-of-concept was to demonstrate the use of numerical modelling and simulation in the design process of an innovative UNILEXA exoskeleton for gait assistance designed for people with partial or complete loss of lower limb function.

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THE BENEFITS

- possibility of verification the safety and effectiveness of the existing product and its further versions and variants;
- increase in the quality of care provided to the end user with an emphasis on user comfort;
- increase in the competitiveness of the product on the market.