SUPPORT USE CASES

SMART RESCUE BAG WITH SENSOR TECHNOLOGY FOR PROTOTYPE OPTIMIZATION

Application in prototype development, simulation and test development

SUMMARY

Product developments can be intelligently designed by using sensor systems in the product at the end user’s site. In collaboration with BECATEX, SmartFactoryOWL in Lemgo has designed self-optimized products (emergency bags) with the aid of networking technologies and data analysis processes. Intelligent automation and artificial intelligence are key research areas that cannot only be applied in connection with highly sophisticated production facilities and components.

CURRENT SITUATION

BECATEX GmbH is an SME that produces custom-made bags, for example emergency bags for paramedics. The requirements demanded of these emergency bags are simple cleaning, a high degree of vibration protection, and the structure should be as modular as possible. It should be easy to clamp vials and other medicines into the bag on a plastic strip, and removing them in an emergency should be a quick and simple procedure.

PROJECT DESCRIPTION

In collaboration with BECATEX GmbH, SmartFactoryOWL has developed vial holders for emergency bags. The intention is to produce a prototype of a clamping strip for vials (3D printing) and to test its practicality. To this end, existing vial holders were equipped with smart sensors so that data on vibration during fire service operations could be collected and analyzed. This data was used as the basis for performing simulations to examine the ideal material properties, and real-world tests were carried out with the prototypes in SmartFactoryOWL’s test environment. The results helped BECATEX GmbH to optimize the design of its product and convince its customers with innovative results.

REFERENCES

https://www.smartfactory-owl.de/
http://www.becatex.de/

INDUSTRIE 4.0 – FEATURES

- Intelligent sensor systems
- Direct digital product optimization and manufacturing
- Additive manufacturing (3D printing)
- Cloud-like management of actuators and sensors

STANDARDIZATION APPROACHES

Equipping products with sensors to call up information on heat build-up, vibration, etc. as well as condition monitoring concerning the application and for the optimum use of materials are all possible with the I4.0 platform’s administration shell.