

Functionalized Surfaces

Motivation: The operation of the automobile is becoming more complex and is trending from classic rotary and push buttons to touch technology in combination with the latest sensor and actuator integration. Certain operating functions are replaced or supplemented by other technologies in order to reduce the installation space of the operating elements.

Goal: New control points arise from the change in connection to autonomous driving. Even today, control elements are positioned unfavorably due to a lack of space. The lack of space should be prevented by functionalized surfaces (foils in a sandwich structure) which enable ergonomic positioning of the operating elements.

Technology and Features:

- ▶ Description: Icons should be precisely depicted on a decorative film. Commands should be triggered via touch in combination with force sensors and confirmed via haptic.
- ▶ Required Maturity:
- ▶ Technical Requirements: force sensitivity 0,1N - 2N, Temperature resistant -20°C - 120°C
- ▶ Required partner: foildbonding, printed electronics

Use cases and Customer Value:

- ▶ Icon changeable
- ▶ Minimum stacksize
- ▶ Minimal costs
- ▶ New interactive functional surface
- ▶ Technical boundary conditions from environment, EDS, geometry

Next step(s):

- ▶ Due date: **30.09.2021 (Feedback to BB)**

Project Scope:

- ▶ Target vehicle: Trinity
- ▶ SOP: 2026
- ▶ Target market: world wide
- ▶ Target price / investment: /
- ▶ Business model: /

Contact Persons VW:

- ▶ Strategy Procurement: Jessica Jester (BB)
- ▶ Series Procurement: t.b.d.
- ▶ Development: Steven Walter Zander (EKAL/5)
- ▶ Research: t.b.d.

Further information:

- ▶ /

Date: 02nd September 2021

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Princip structure:

