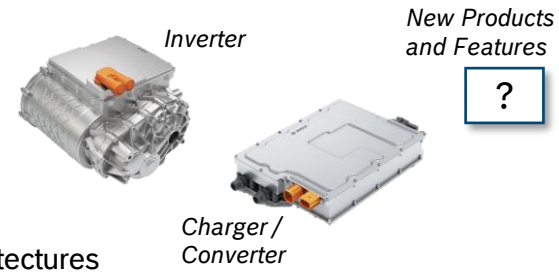
# Pitch PhD AEL4
# Isolated µ-Power DCDC - AUX

**Potential Products :**

- AUX for Traction Inverter
- AUX for Charger/Converter
- Automotive Solar DCDC
- Redundant/Parallel LV-Boardnet Architectures




**Objectives / Motivation:**

- Miniaturization in compliance with insulation requirements (HV-Safety in conjunction with new norm) → from PS-PE
- Compliance with requirements regarding special operating conditions & FuSi requirements (noTi) → from PS-PE
- "Cross-Regulation" for multi-output converters
- PPC-Reduction (MAT Cost-Down by component reduction / req.-refinement; Industrialization concept e.g. via Pick&Place to reduce VA-cost)
- RnD cost reduction by modularization/scaling concept

**Rough outline of the work:**

- Requirement collection & objective definition
- Research on State of the Art
- µ-Power DCDC research circuit concepts / topology research / topology comparison / transformer concept → inspired by CE
- Concept Evaluation
  - Qualitative evaluation by expert interviews
  - Quantitative (simulation based) evaluation
  - Rating of the µ-Power DCDC circuit concepts and comparison with Benchmarking (commercially solutions from CE-Electronic)
- Development of an integration concept for a modular standardized AUX module (SiP, ASIC, etc.)
- HW setup & Lab demonstration of selected µ-Power DCDC
- Conclusion

**Vision: Safe, tiny & low-cost µ-Power DCDC (espc. AUX) for broad product range**

*AUX = Auxilliary Power Supply / "Hilfsspannungsversorgung"*