ADVANCING SUSTAINABLE PRACTICES IN ELECTRIC MOTOR DRIVE SYSTEMS FOR GLOBAL ENERGY EFFICIENCY

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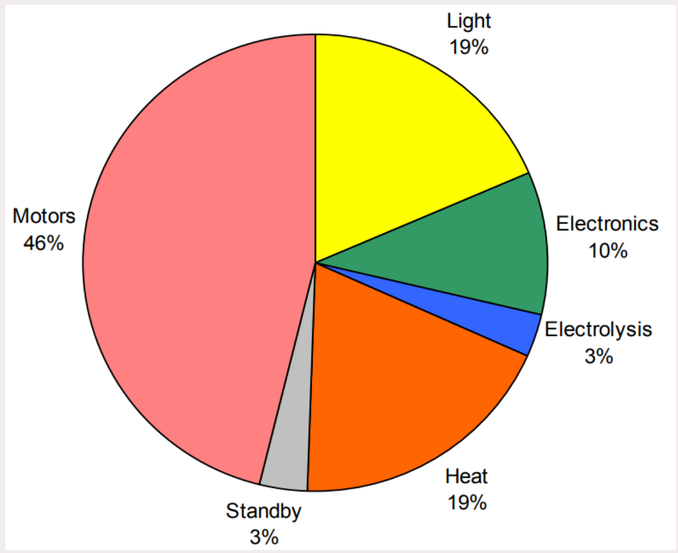
STEM for BRITAIN

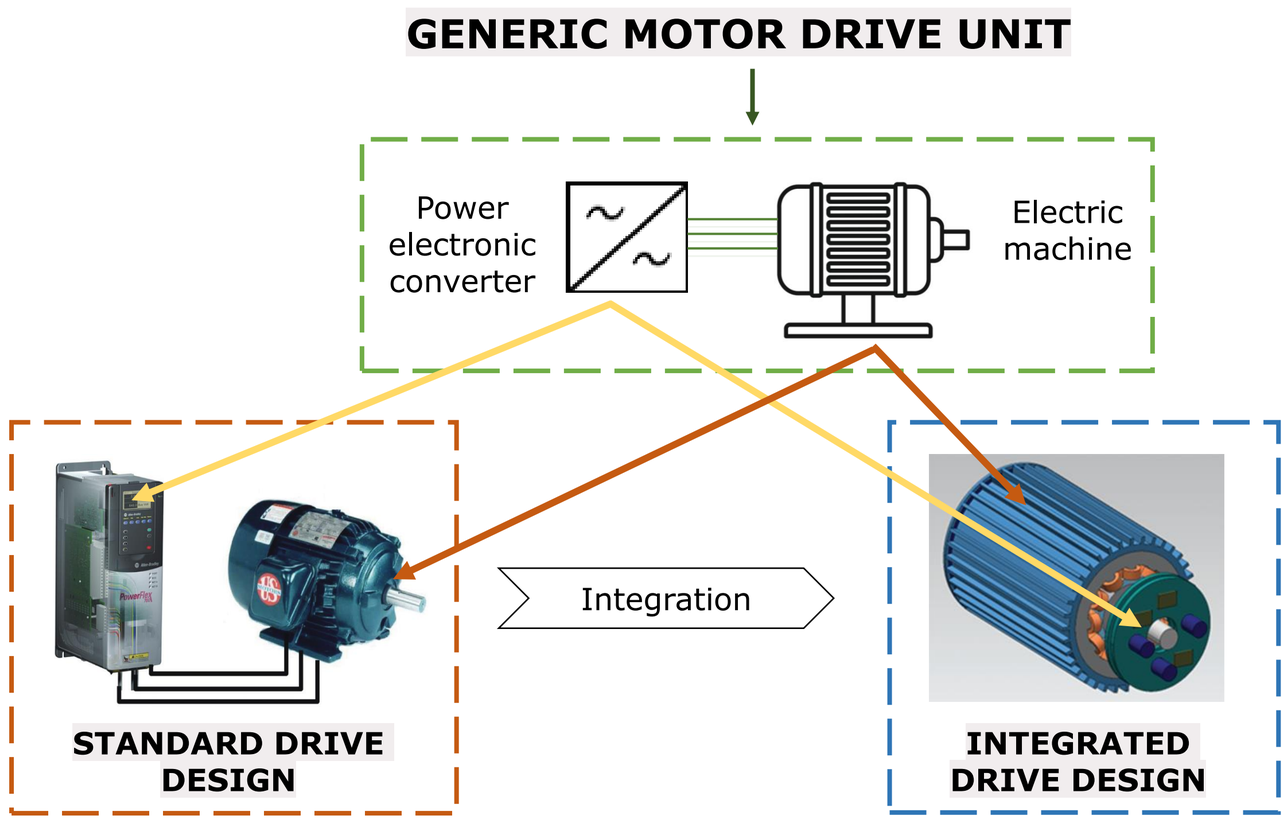
1. GLOBAL ENERGY CONSUMPTION SCENARIO[1]



- annual motor emissions: **6000 metric tonnes of co_2**[1]
- user expenses to surge to **$900 billion** by 2030.

2. TRANSITIONING TO THE INTEGRATED MOTOR DRIVE (IMD)

- potential to achieve a **20-30% gain in efficiency** using efficient motors.[1]
- resulting in a **10% reduction** in global electricity demand.[1]



KEY ADVANTAGES:

- increased space saving
- enhanced operational efficiency
- streamlined maintenance
- reduced raw material usage

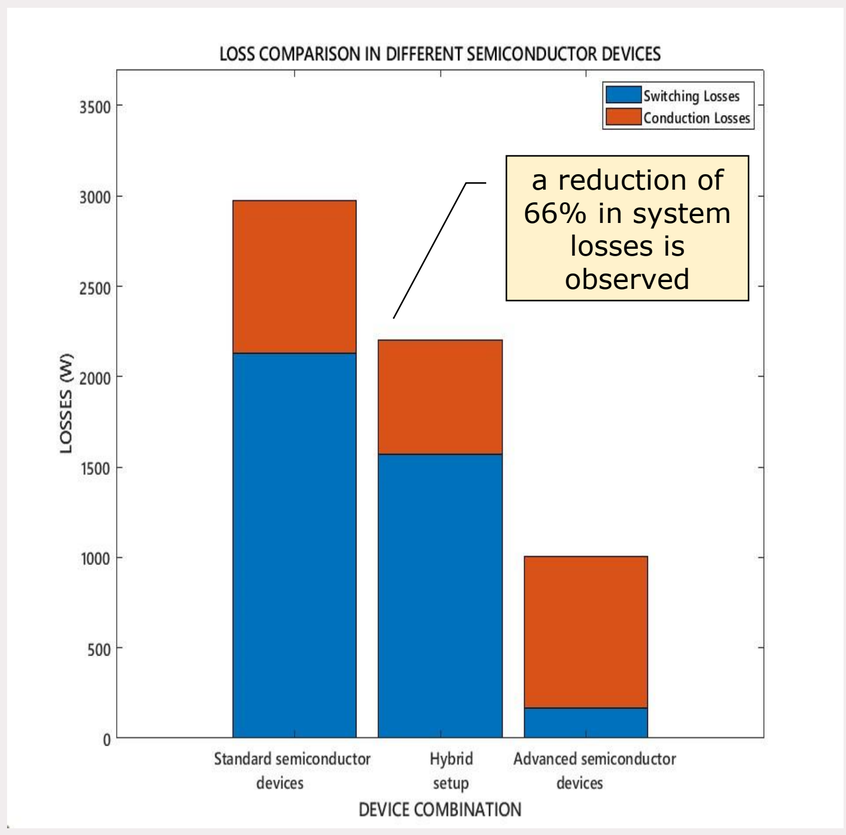
3. PROPOSED IDEA!!!

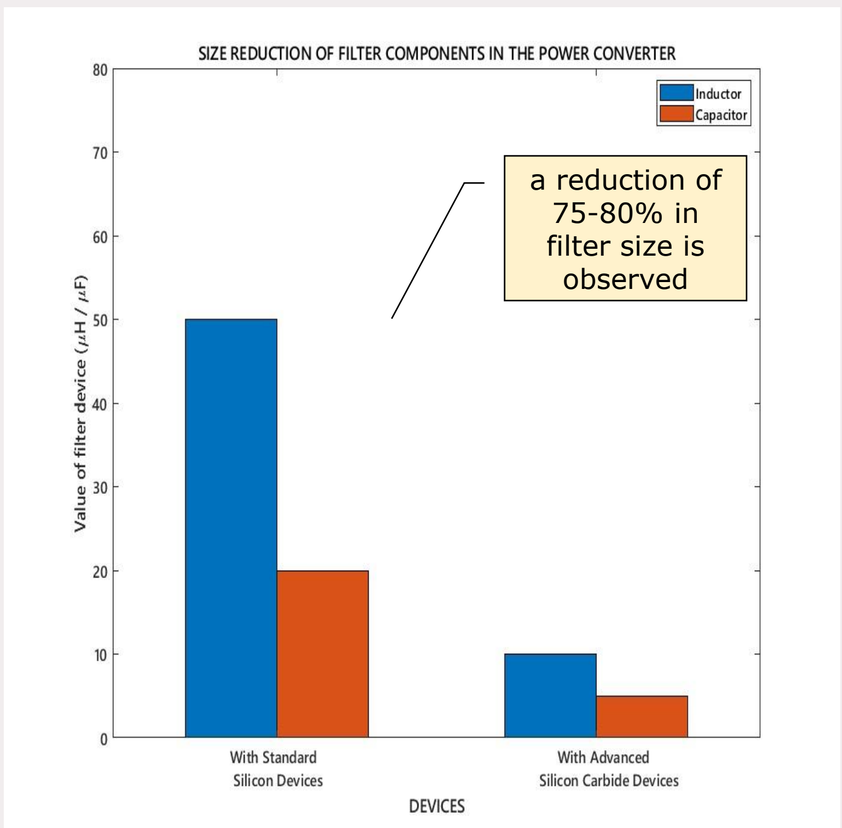
- **boosting system efficiency** by using advanced semiconductors
- enabling **smaller system sizes** through efficient electrical operation.
- resulting in an **efficient** integrated drive

4. OUTCOMES

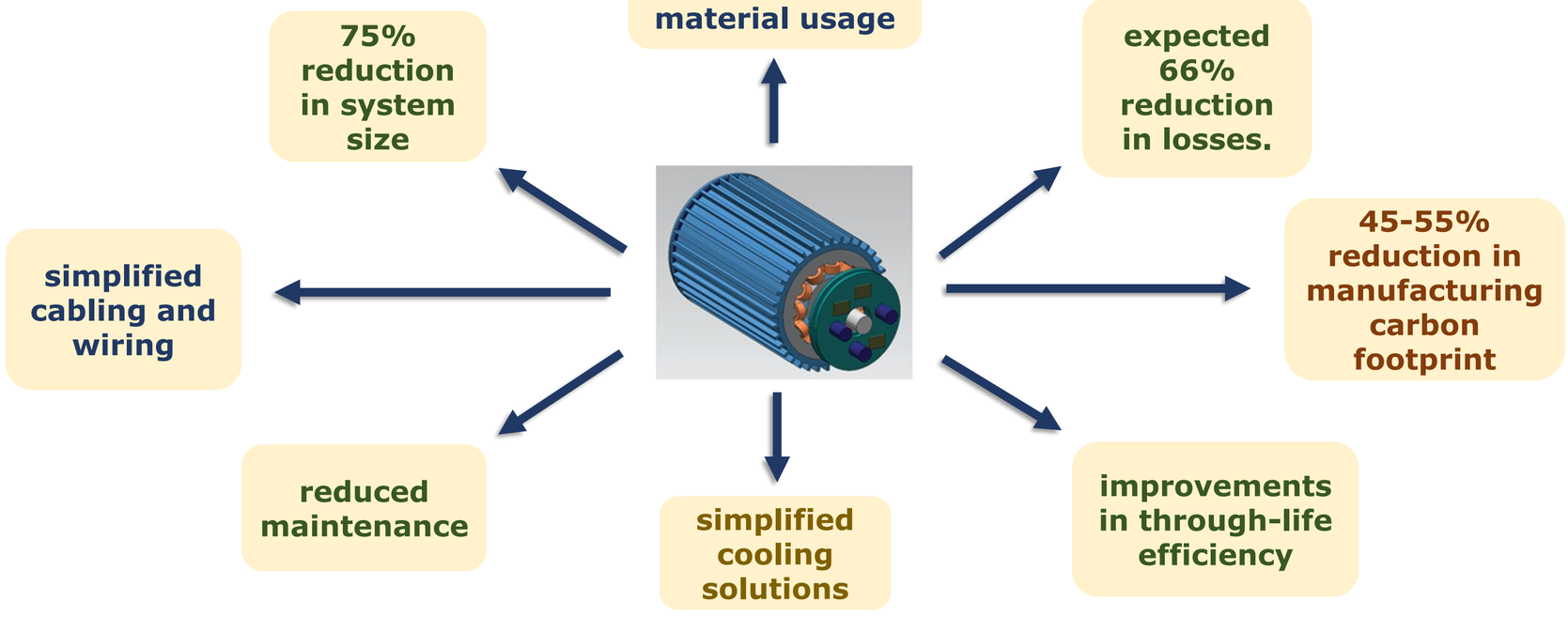
- Application in manufacturing, **automotive**, **aerospace** and **renewables** sectors.
- **decreased** manufacturing cost.
- **reduction** in carbon footprint.
- improvements in **through-life efficiency.**
- **easing adoption** of IMD in the UK.
- assist in fulfilment of the UK's **Paris climate commitments**.

5. RESULTS





6. CONCLUSION



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1. Waide, P. and Brunner, C.U., 2011. Energy-efficiency policy opportunities for electric motor-driven systems.