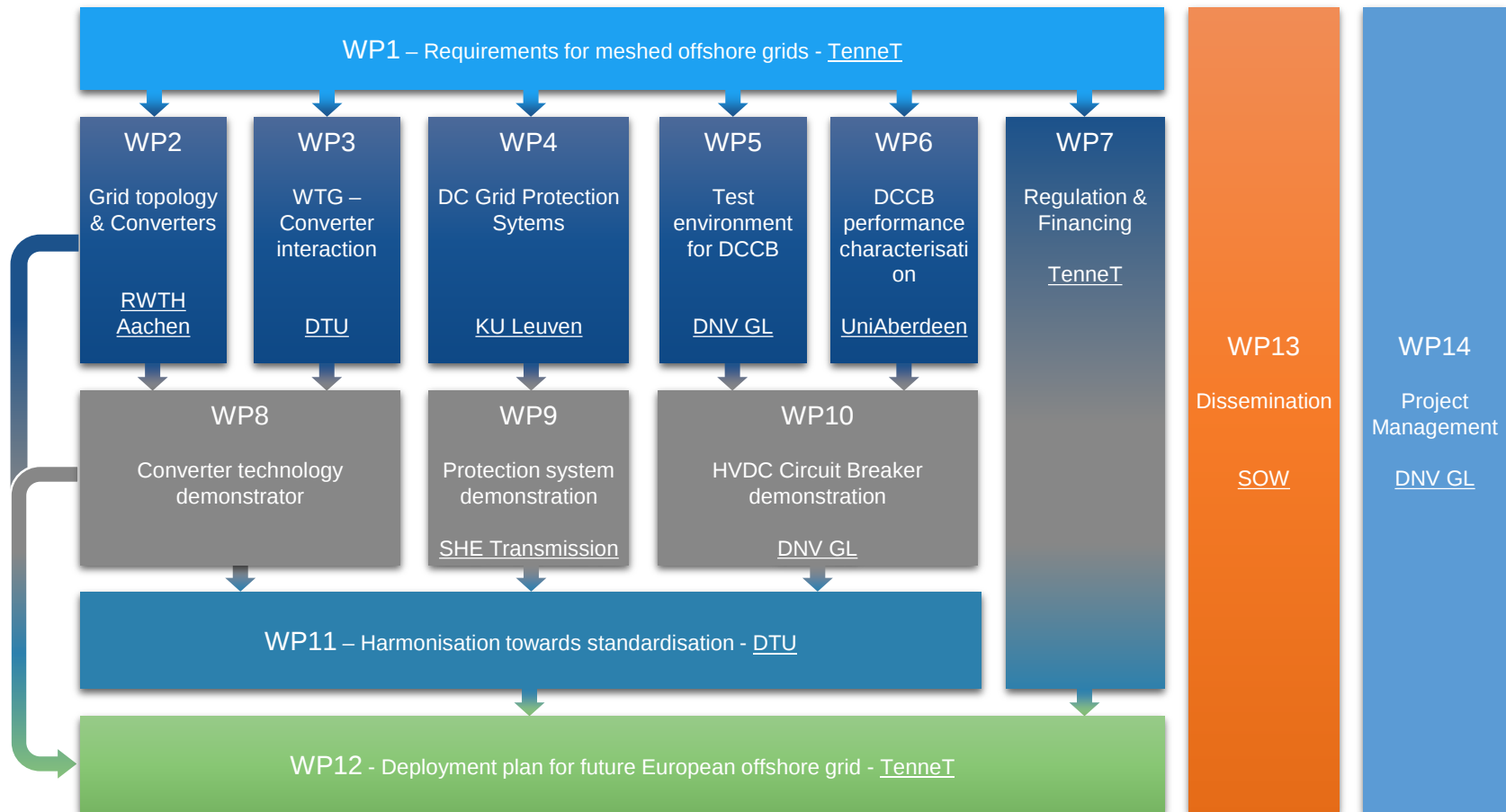


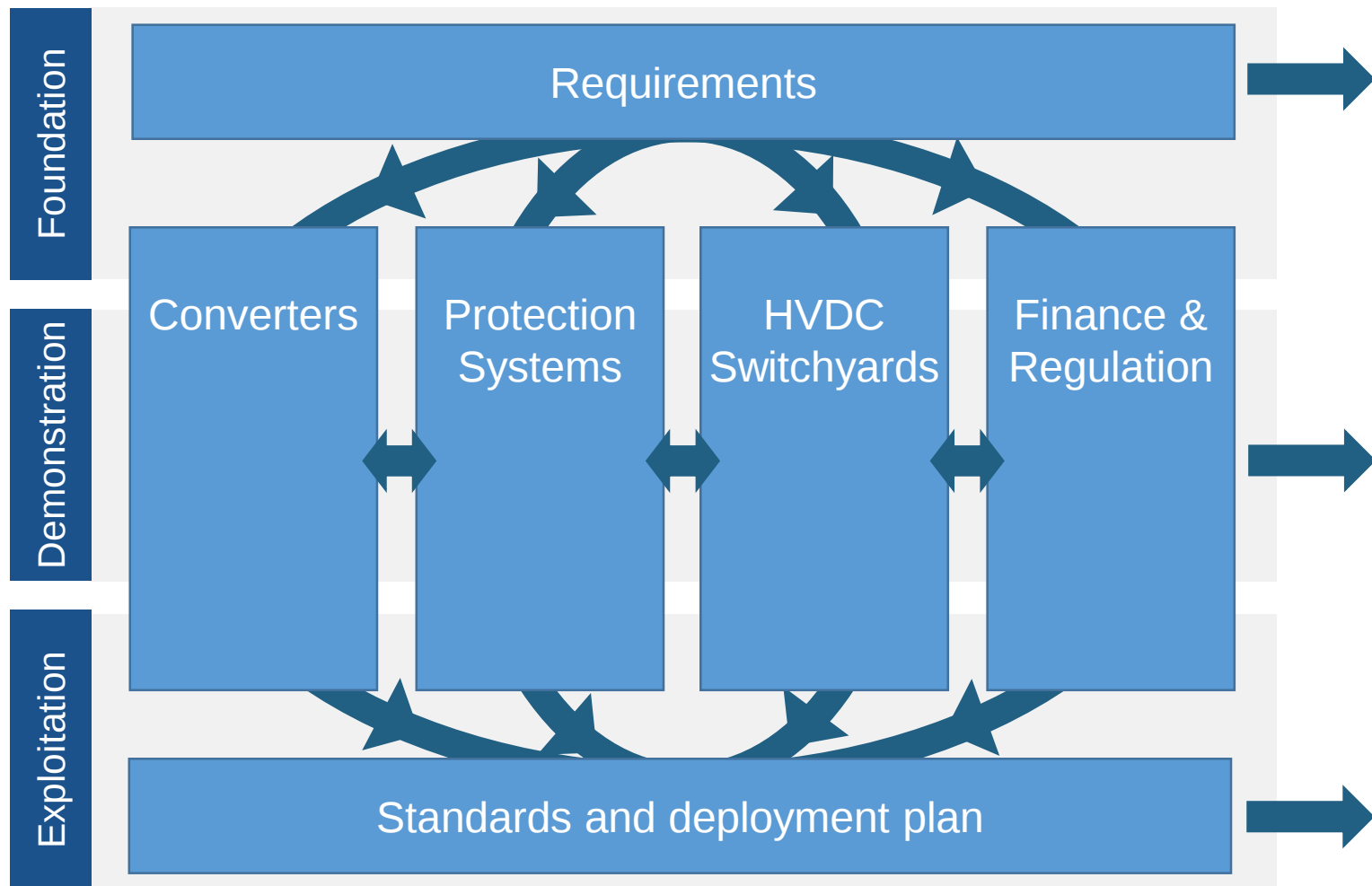
PROMOTION – WP9

Demonstration of operation of DC Grid Protection

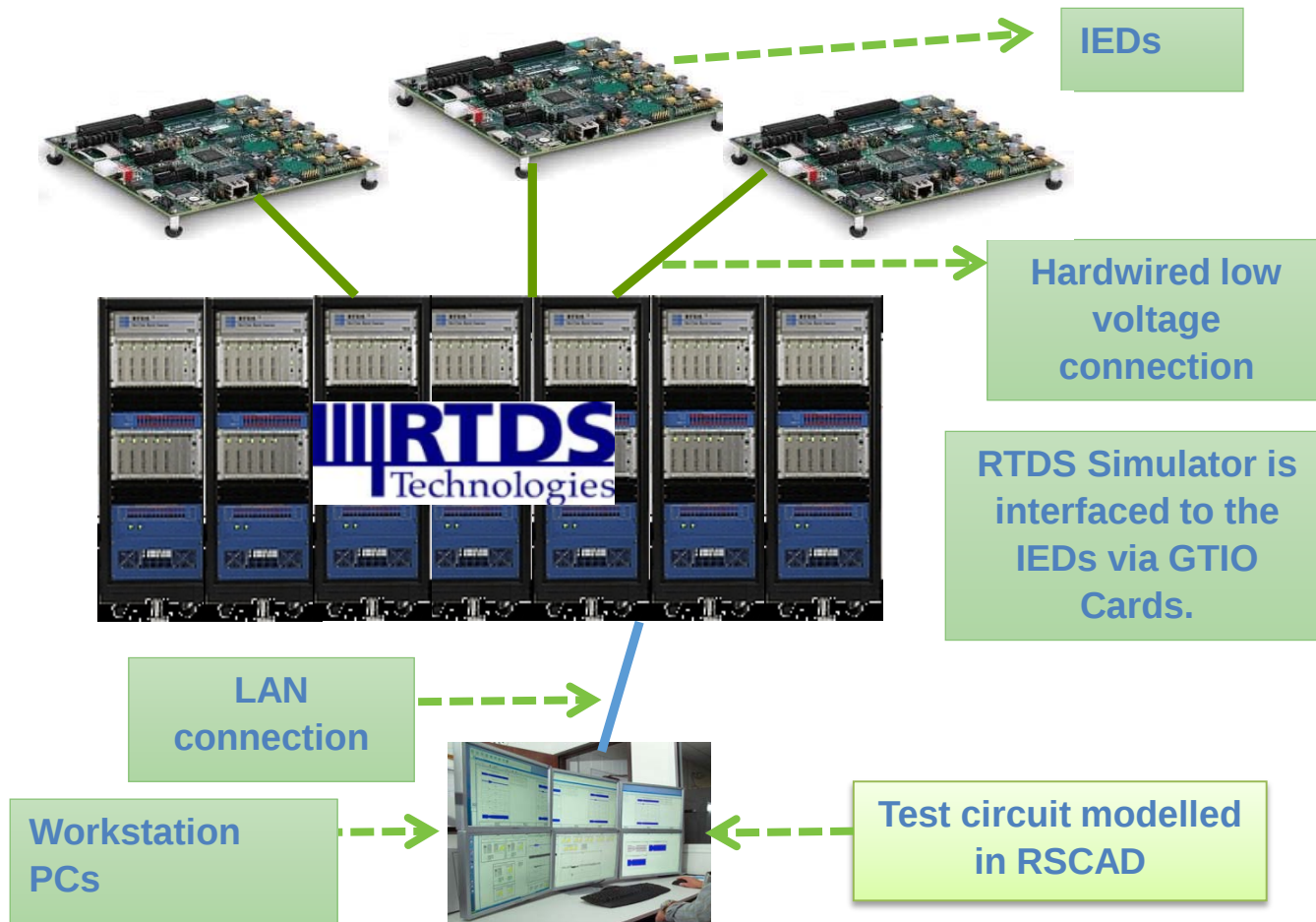
Work Package 9 Interfaces



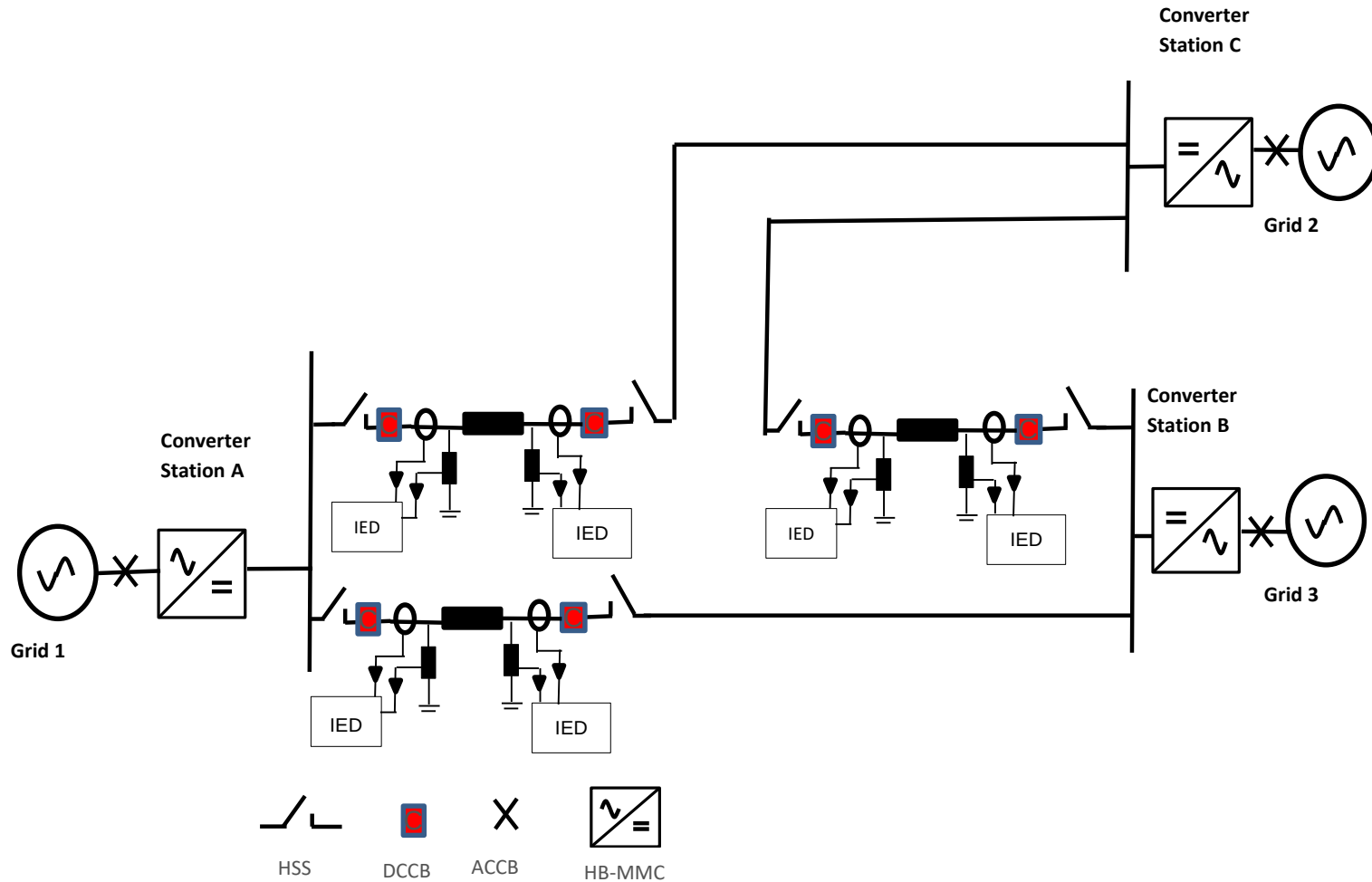
Work Package 9 - Demonstration



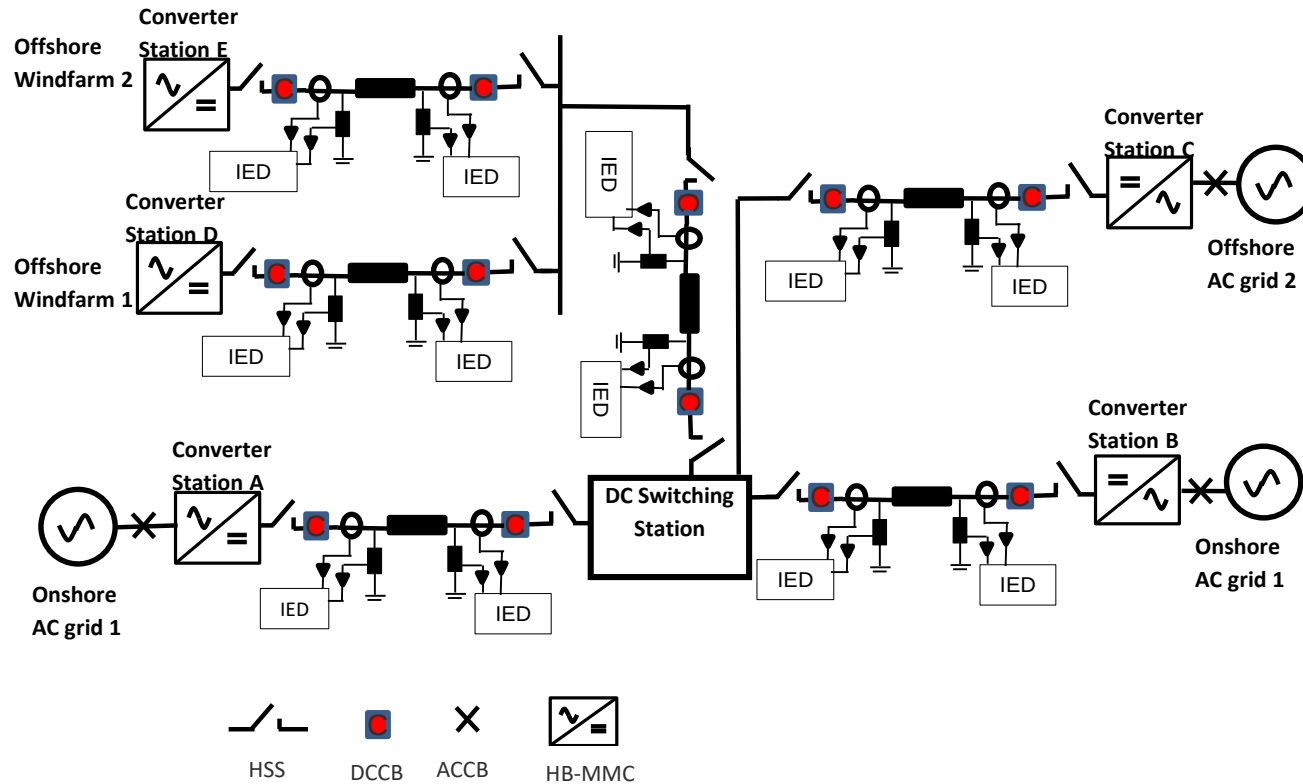
RTDS Test Set-up



Sample Test Circuit 1



Sample Test Circuit 2



Graphical representation of the test circuit modelled in RSCAD.

WP9 – Task 9.1

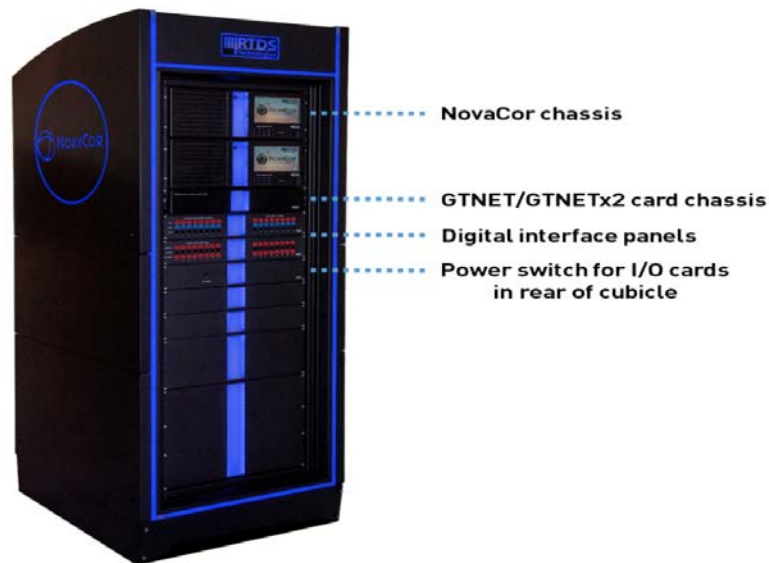
Task 9.1: (M30 – M36)

Integration of Protection Relays and DC CB models from WP4

Subtasks:

9.1.1 - IEDs from WP4 – Task 4.4 – (M22 – M40)

9.1.2 - DCCB models in RTDS from WP6 – Task6.3



WP9 – Task 9.2 and Task 9.3

Task 9.2: (M30 – M36)

Develop DC Grid benchmark model in RTDS.

Subtasks:

9.2.1 – RTDS models for DC Grid and AC network.

9.2.2 – Fault case list.

Task 9.3: (M30 – M36)

Develop DC Grid protection testing procedures and guidelines.

Subtasks:

9.3.1 – DC Protection testing procedures and protocols.

9.3.2 – DC Protection testing guidelines for meshed DC Grids and standardisation requirements.



WP9 – Task 9.4 and Task 9.5

Task 9.4: (M36 – M42)

Demonstration of DC Grid protection using Hardware-in-loop testing.

Subtasks:

9.4.1 – Already tested protection algorithms included in IEDs.

Demonstration (M42).

Task 9.5: (M42 – M46)

Demonstration of protection interoperability.

Subtasks:

9.5.1 – Multiple protection relays and DCCB models (mechanical DCCB, hybrid DC CB).

Demonstration (M42).



WP9 – Task 9.6

Task 9.6: (M42 – M46)

Demonstrate primary and back-up protection and system level consequences of protection failure.

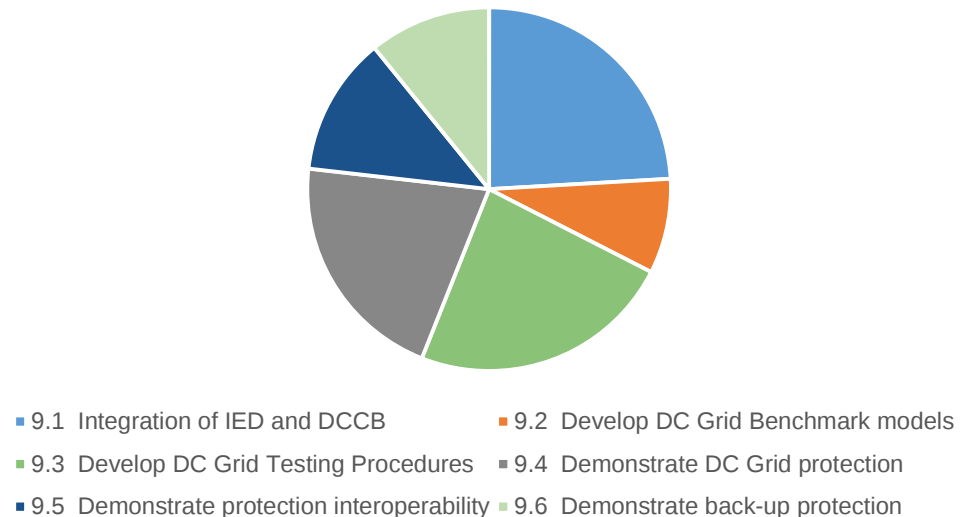
Subtasks:

9.6.1 – List of worst-case protection failure modes.

9.6.2 – System level consequences of protection failure.

Demonstration (M42).

Work Package 9 Task Effort Distribution



APPENDIX

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