
X01


PATRICK BLACKETT

NavyX

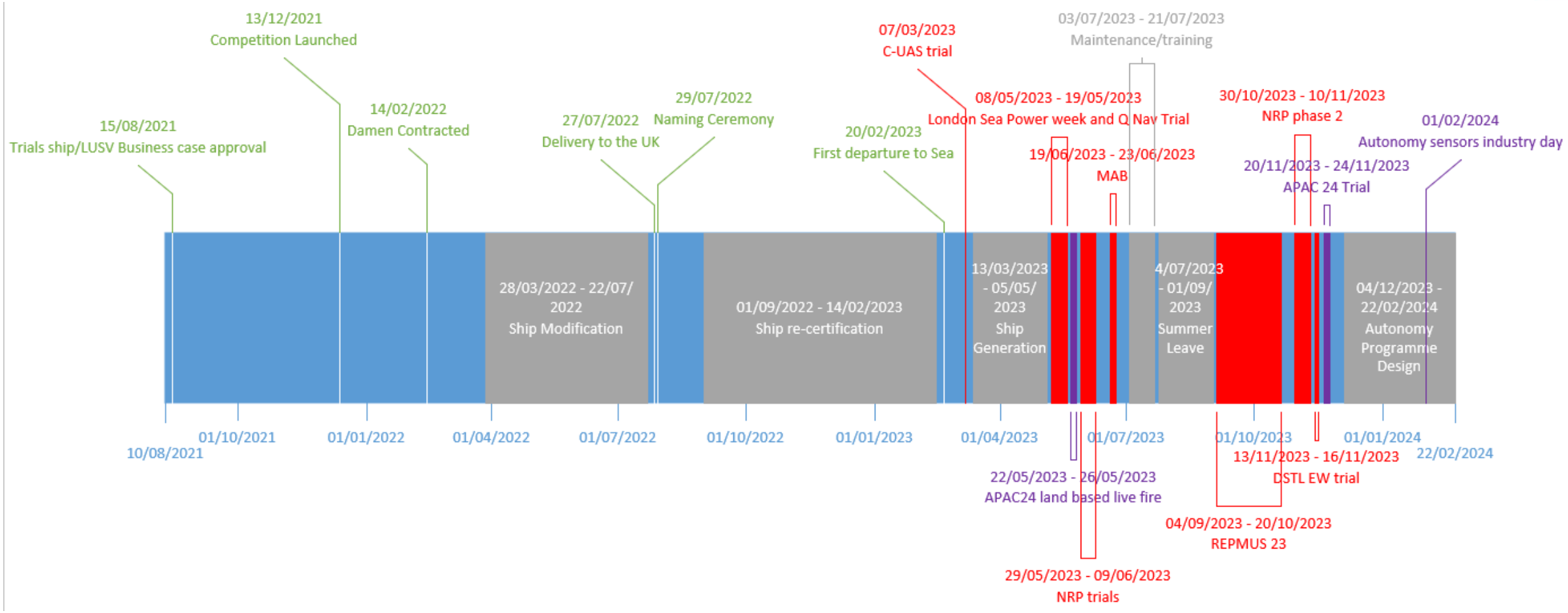
Who we are, what do we do

- Small team within Develop Directorate
- Mixed Civil Servant, Military and contractor team- totalling 22 people
    - 5 PTBK Ships Company
    - 2 Battlelab
    - 15 Project, planning, safety and platform
- Both operates and supports (DE&S function) the APAC24 and PTBK
- Autonomy, innovation and lethality accelerator

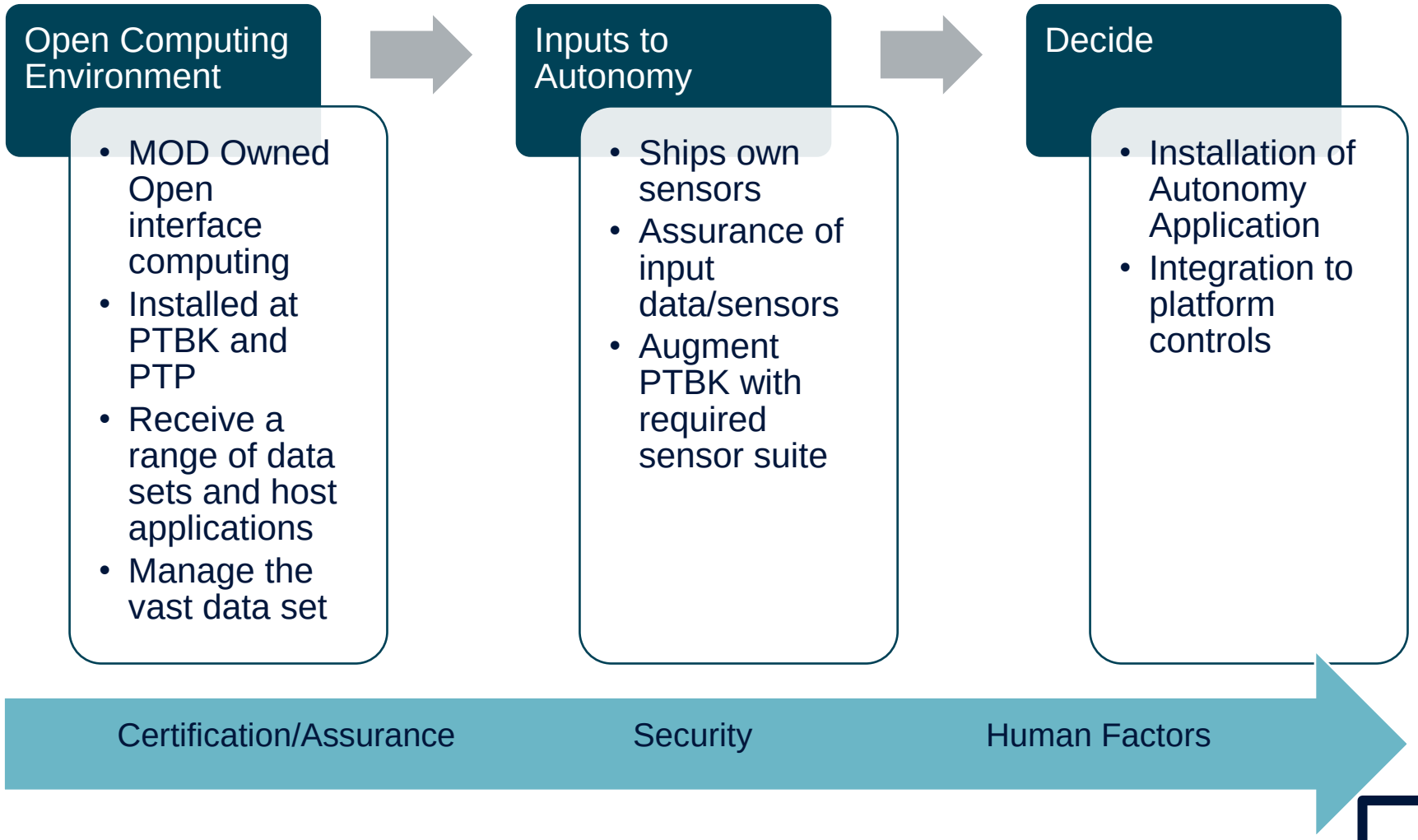
APAC24

Experiment	Status
Capability demonstration	Completed
Ships Integration trial with T23	Completed
Portsdown Technology Park (PTP) integration	Completed
Land based Live fire	Completed
Wraysbury	Completed
Launch and Recovery	TBC
REPMUS 2024	Task able node to the StrikeNet (TBC)
At sea Live Fire	Requires possible modification to platform and further experimentation planning.
At sea launch and recovery?	TBC?

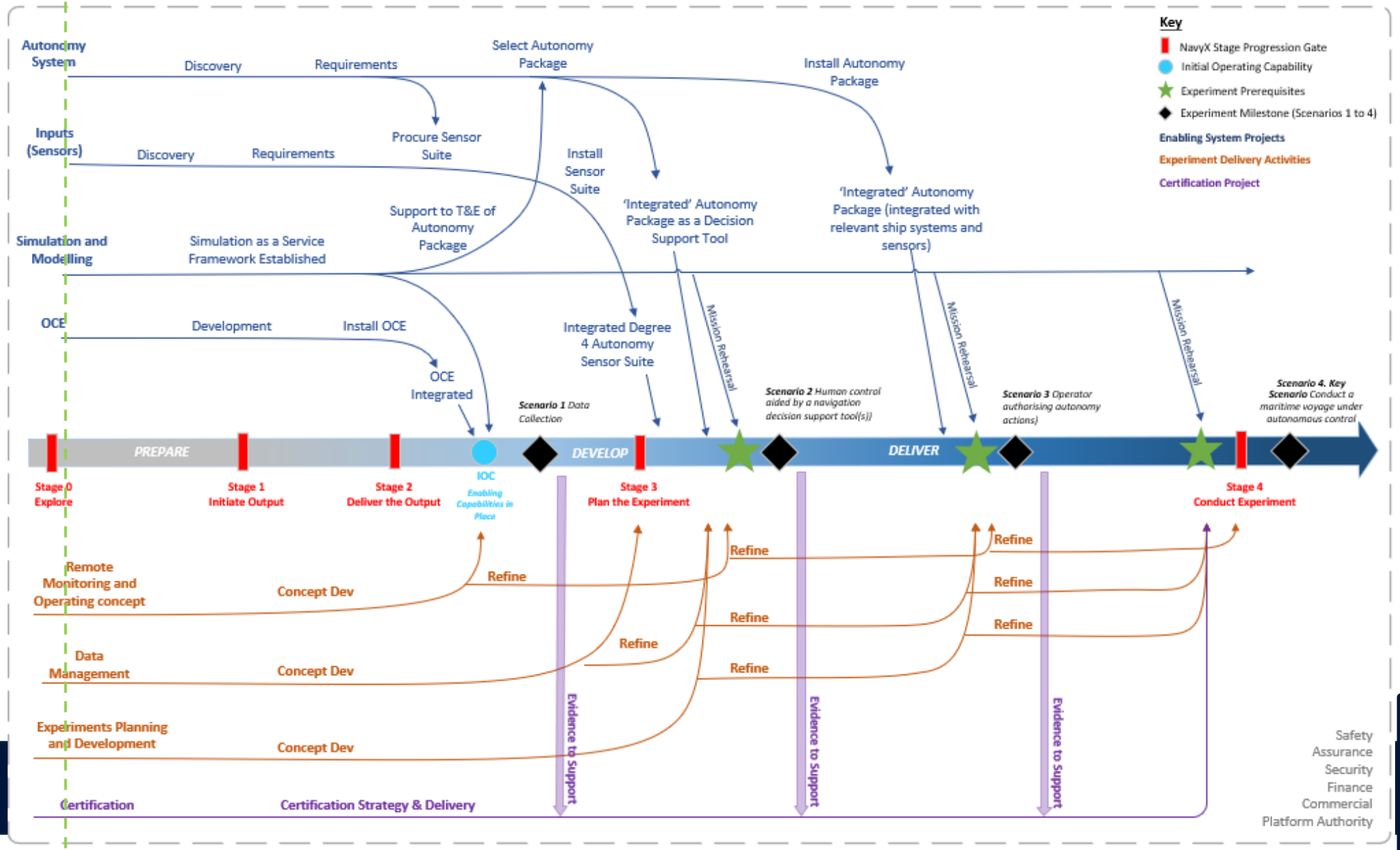
NavyX- Ship autonomy story



NavyX Building Blocks to Autonomy



Autonomy Programme



Navigation autonomy on PTBK- Crawl (Tranche 1)

- Data management in open Computing environment (OCE)
- Ships own sensors to OCE
- Additional sensors to PTBK- understand what is needed
- Sensor assurance pathway development
- Test and Evaluation environment development
- Certification Strategy

Navigation autonomy on PTBK- Walk (Tranche 1)

- Remote monitoring centre development
- Test and evalualtion environment development
- Autonomy as a decision support aid
- Operator vs autonomy experiment
- Autonomy system assurance
- Integration Plan development

Navigation autonomy on PTBK- Run (Tranche 1)

- Integrate with ships control systems to actuate engines, rudders etc.

Navigation autonomy on PTBK- Sprint (Tranche 2)

- Reduce the need for operators on the bridge
- Completed longer passages under autonomous operation
- Operate at night

Autonomy Concept development (Tranche 2)

- Build operator experience with ship autonomy
- Consolidate the learning and look for weaknesses in the systems
- Repeat tranche 1 if the system isn't at required level e.g. autonomy, remote operation or sensor performance
- Exploitation pathway development

"Wartonomy" (Tranche 3)

- Develop Tranche 1 activity to enable Warfighting autonomy e.g. none COLREG operation, application of operational Navigation
- Use autonomy to understand War fighting use cases
- Understand limitations of autonomy in a warfighting contexts e.g. when do we need people in the loop, degraded comms etc.
- Look at weaknesses e.g. GNSS
- Force Protection of M/L USV's
- Management of Crypto

Current Autonomy Programme Scope

NavyX Autonomy Strategic pathway

Other work steams

- Tactical Data Links
- Multi-Faceted at sea communications
- Integration of StrikeNet into OCE to task APAC24
- SAAB Sea Giraffe radar
    - AWB data exploitation work

Enables FADs concept demonstrator

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