CECA Conference

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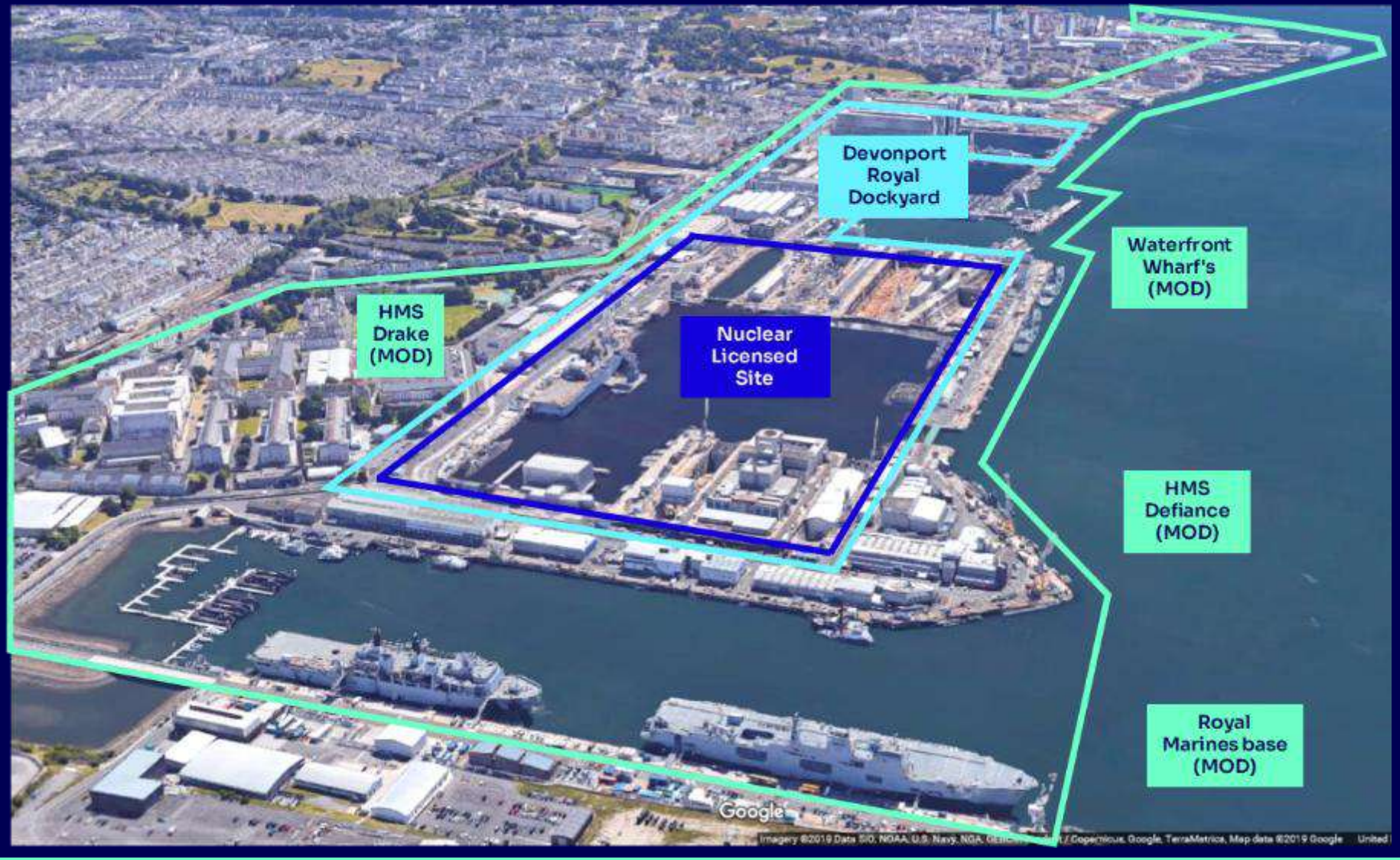
Devonport Dockyard



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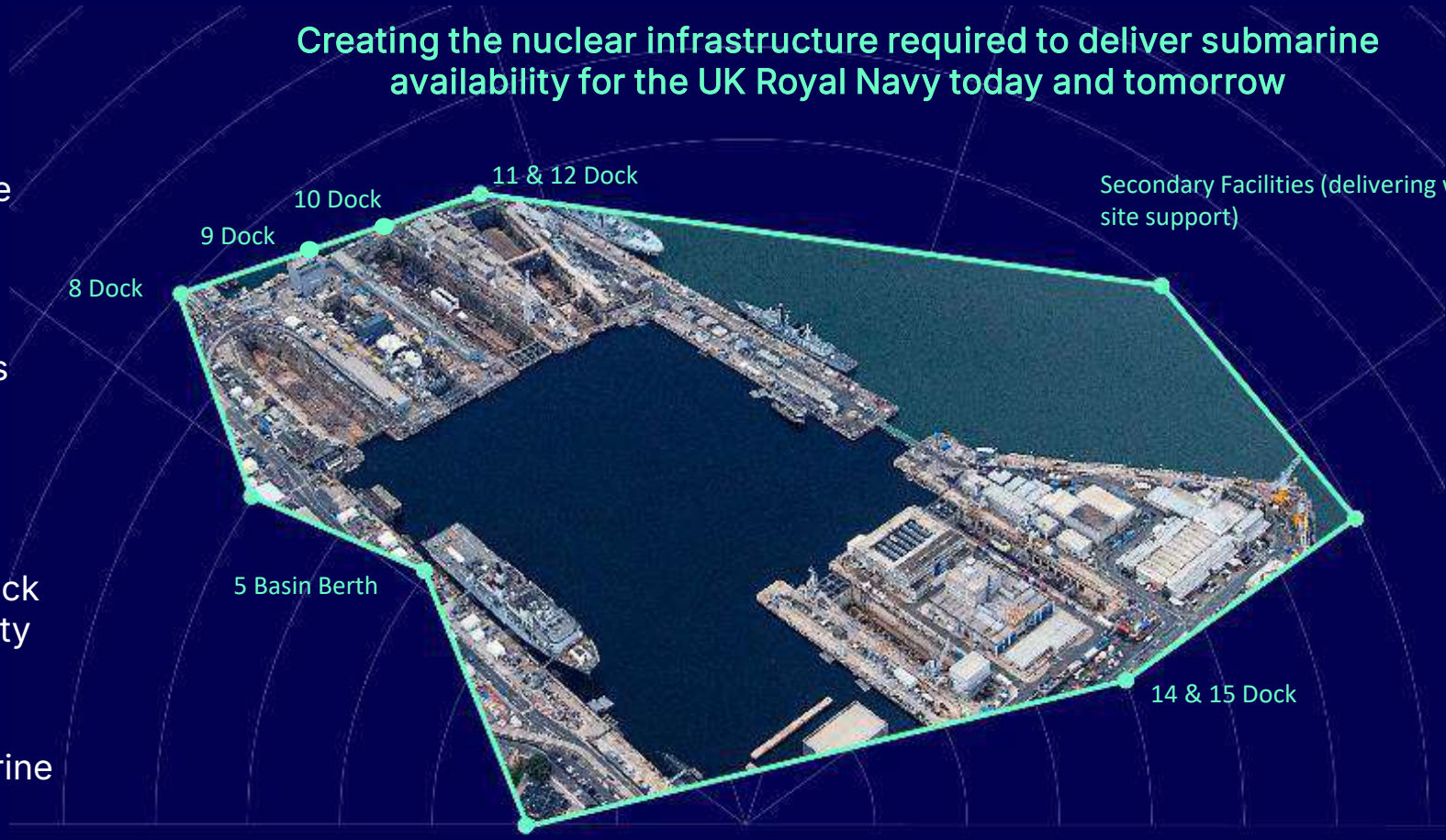
Devonport Portfolio

Creating the nuclear infrastructure required to deliver submarine availability for the UK Royal Navy today and tomorrow



9 Dock Facility Readiness

- Dock upgrades to enable Vanguard submarine class deep maintenance

10 Dock

- Facility re-development to deliver Astute class submarine deep maintenance & future dreadnought capability

14 Dock

- Reactor Access House commissioning and dock upgrades to enable submarine defuel capability

15 Dock

- Dock upgrades to enable Astute class submarine base maintenance

5 Basin Berth

- Major upgrades to enable twin stream, in-water submarine base maintenance activities

Secondary Facilities (2Fac)

- Providing additional capability to services and supporting infrastructure to deliver submarine maintenance at Devonport

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Climate Change

Devonport programme context

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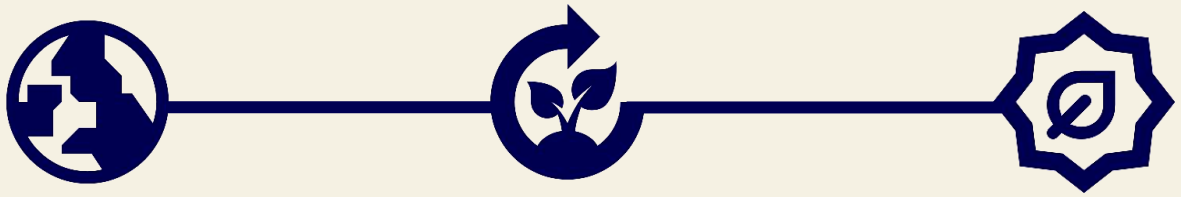
Our Requirements

- Continued Operation and delivery of key projects (CASD) on schedule in line with customer requirements
- Plan Zero 40 (Net Zero scope 1 and 2 emissions by 2040)
  - Customer requirement to achieve net zero by 2050
- 10% increase in biodiversity by 2030*
- 15% increase in energy efficiency by 2030*



What are our issues surrounding Climate Change

Four miles of waterfront

- Increased risk associated with flooding

Significant infrastructure work required

- Last significant update to Dockyard was in the 70's
- Buildings are beyond their design specifications (current weather patterns)
- Heating strategy currently aligned to a historic requirement (Steam)
- Majority of works have historically been reactive

Business cases are not easy to justify

- Energy provided at low costs, with complicated contracts in place relating to energy provision
- Security requirements can drive costs up
- Holistic impacts need to be considered

Customer drive is changing

- New fleet, Geo-political changes, new capacity
- Areas of the Dockyard date back to the 17th century
- Changing narrative to ensuring resilience
- All new builds and significant refurbishments are being driven to DREAM/BREEAM

Regulatory constraints

- Historic Monuments and listed buildings
- Adjacent a Special Area of Conservation and within 500 meters of three Sites of Special Scientific Interest
- Land contaminated with Heavy Metals through how the site was reclaimed from the river
- Nuclear Safety – makes it harder to deploy cutting edge technology and strict requirements

Supporting infrastructure requiring upgrades to support

Risk presents opportunity

- Requirement for new infrastructure presents opportunity to ensure Climate Change requirements are captured
  - Climate Impacts Risk Assessment Method CIRAM and Generic External Hazards Assessment (GEHA)
  - Net Zero requirements captured, alignment to standards JSP850 and its Building Performance Standards
  - Obligation to achieve BREEAM/DREAM Excellent (New build), Very Good (Refurbishment)
- What does resilience mean?
  - Able to operate within known cost parameters
    - Reliance on fossil fuels presents risk both from UK ETS and on primary costs
  - Power provided onsite enables resilience
  - Being able to operate through a changing environment (water levels, wind speeds etc)
  - All services impacted by Climate Change (Water, Sewage, Power, Heating), driving change as the systems need to be resilient.
  - Ready to operate in extreme conditions