BP's development and utilisation of Fast Digital Imaging Inspection (FDII)

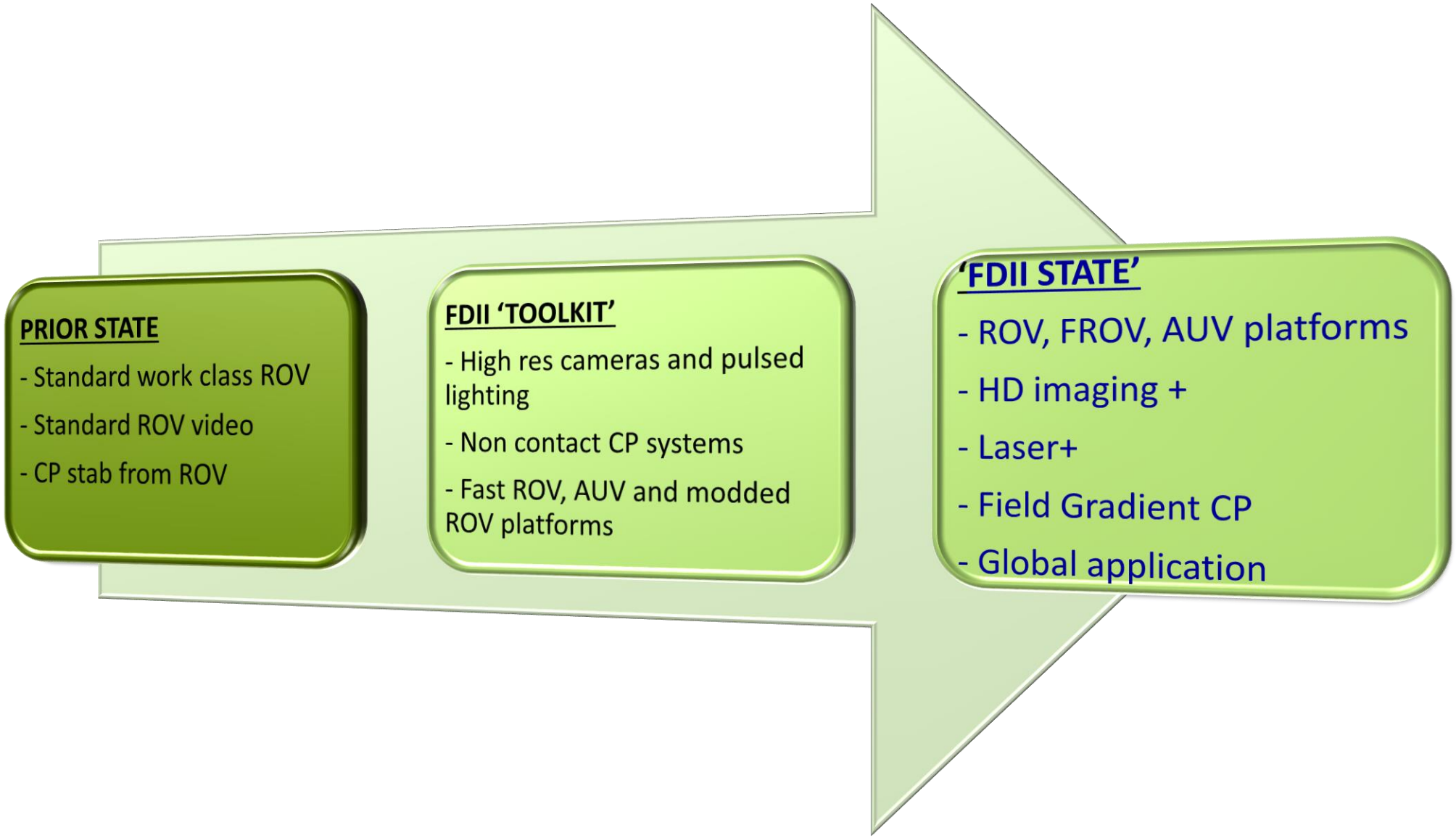
Category- Inspection, Monitoring and Maintenance / Operations and Maintenance

November 1st 2018: Peter Collinson & Scott Higgins

Purpose

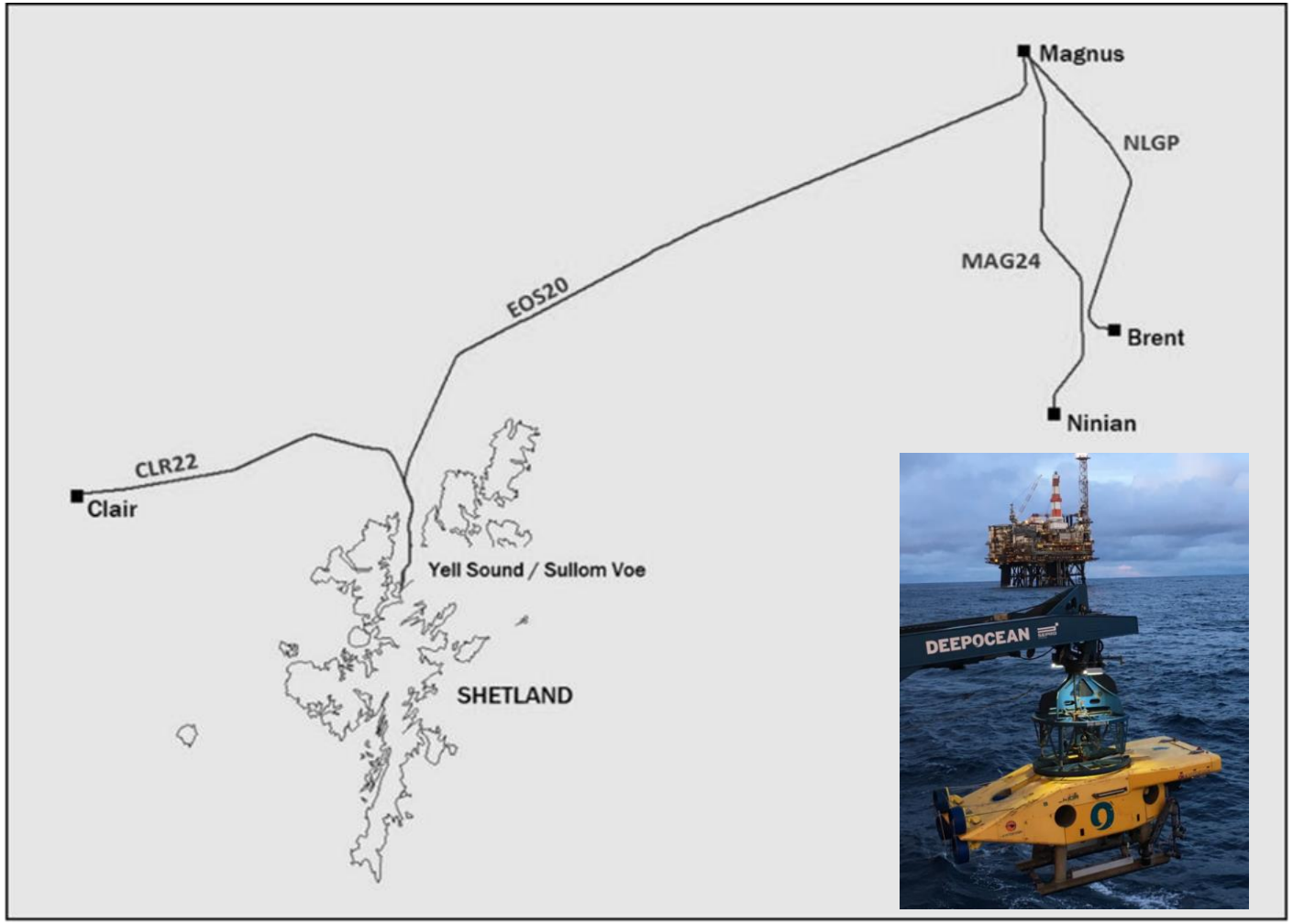
"To share the BP experience of Fast Digital Inspection Imaging (FDII) and potential future development of FDII systems"

What is Fast Digital Imaging Inspection (FDII)?



FDII pipeline inspection program example

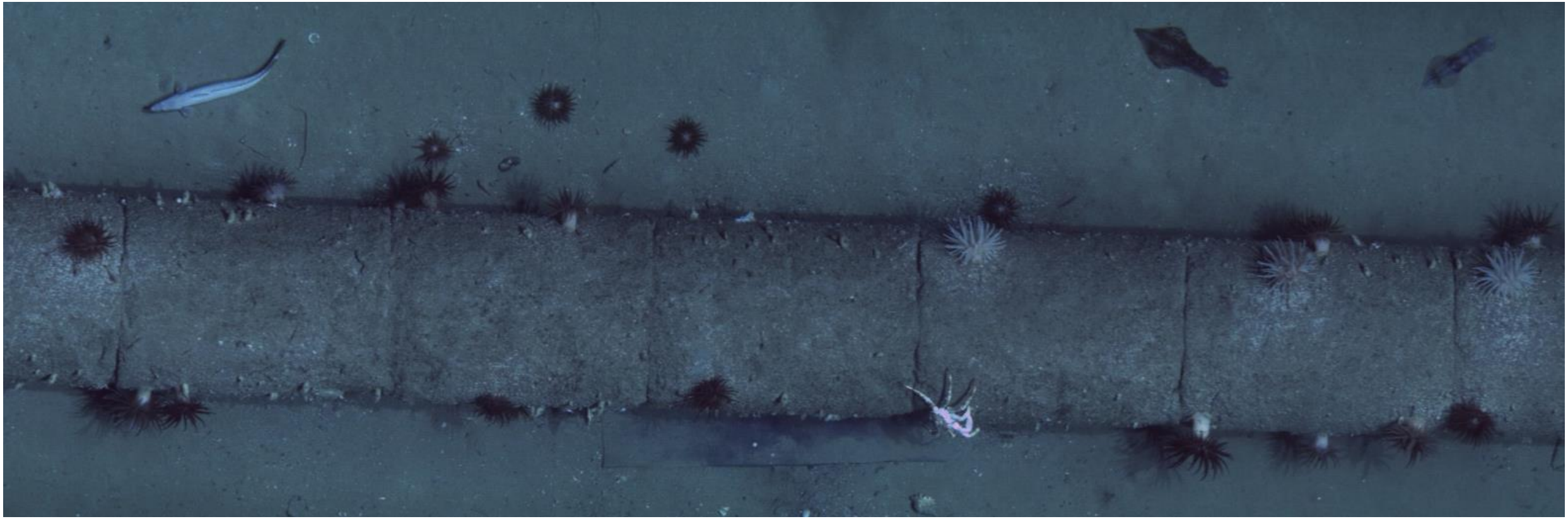
- November 2017 undertake inspection of 478 pipeline kilometre of four major trunk lines
- Utilising Fast ROV equipped integrated Laser and High Definition Cameras – termed ‘Fast Digital Imaging Inspection’ (FDII)
- Field Gradient CP system (FiGS) deployment



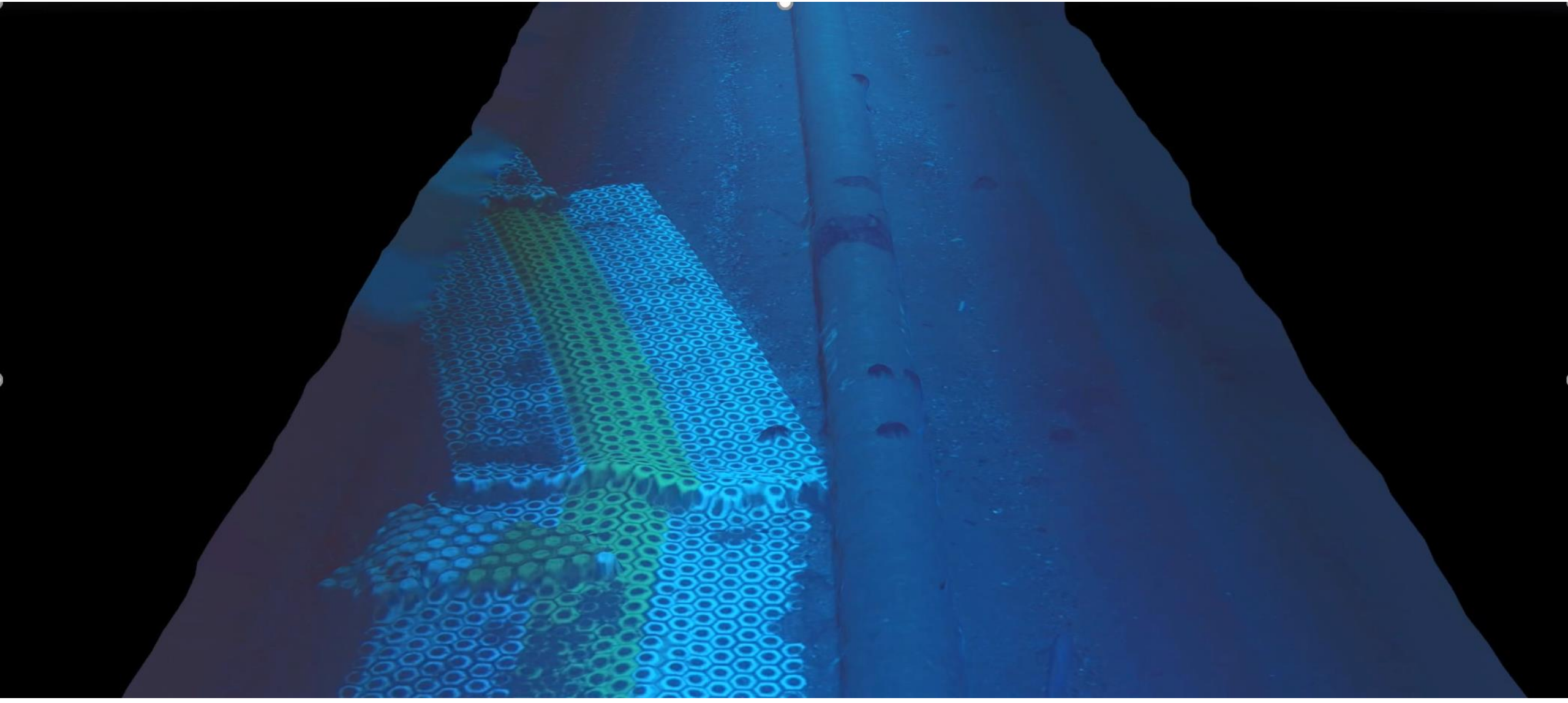
Results

- Fast ROV (FROV) project averaged 5.1km/hr inspection delivered a time saving of 6 : 1
- Modified ‘standard ROV’ systems delivered a time saving of 5 : 1
- Trial of Large AUV systems (HUGIN) FDII inspection may offer similar time saving efficiencies.
- Acquired Sidescan, Multibeam, Laser and HD Images and non contact Field Gradient CP system. Better data at lower cost!
- Data Deliverables include *3D Scene Layer file, potential for ‘pseudo video’ imagery, 2D georeferenced Mosaic, event and anomaly listings (PRISM / PODS).*
- Data delivered to integrity teams via BP ‘OneMap’ (ESRI ArcGIS) system

High Resolution Mosaic Delivered

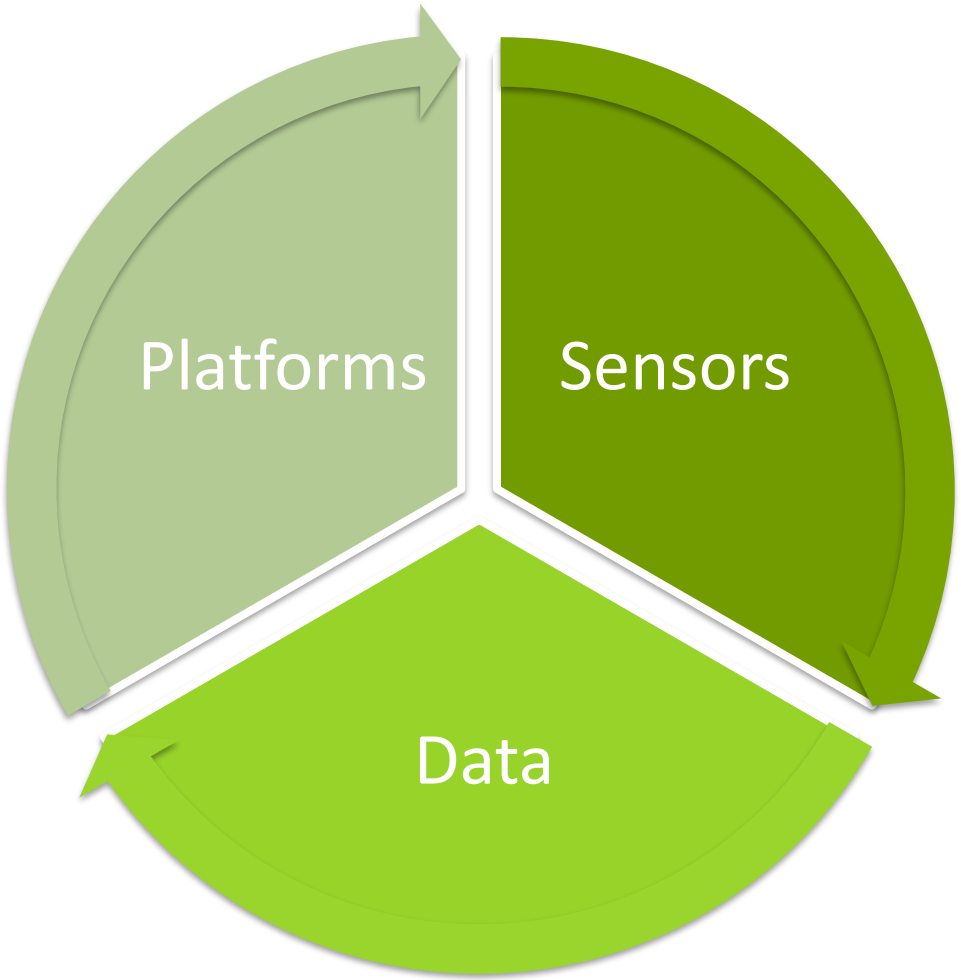


3D Scene Layer files– Fly Through example

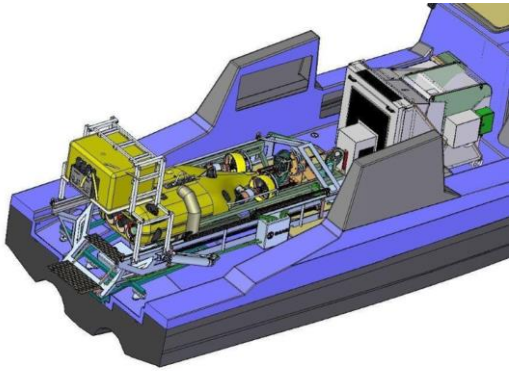


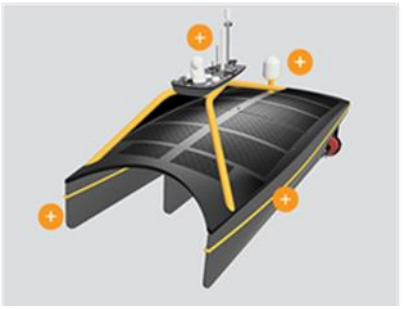
Fly Through

2019+ FDII developments



- Market intelligence
- Unmanned systems
- Remote Operations
- Sensor technology
- Machine Learning
- Data, data, data!





4 take away messages:

1. BP is undertaking modernisation and transformation of its business to make inspection more efficient

2. *FDII is a developing technology and BP is in the forefront of its development. FDII is data focussed with even greater efficiencies to be realised through the implementation of unmanned / untethered systems*

3. *We will review and implement advanced and alternative inspection technologies in all areas to further increase inspection efficiency*

4. Enhance HSE performance through global application of these systems

Thanks for a one team effort!

Subsea 7

Deepocean

Fugro

CathX

Force Technology

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