

DSG(2019)C021

# Space Hub Sutherland

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*Presentation to  
Dounreay Stakeholder Group*

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Highlands and Islands Enterprise  
Iomairt na Gàidhealtachd 's nan Eilean

# The Project

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- **Create a launch facility for Vertical Launch in the UK**
- **Team up with partners to launch from Sutherland**
- **Develop supply chain and support services**
- **Timeline has excellent fit with need for diversified jobs and new sector**



# The Project - background

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- In 2014, UK Government announced it's commitment to enable access to space from the UK
  - Their vision to have small satellite or sub-orbital spaceflight operations from a UK spaceport in the early 2020s.
- HIE team up with four industry partners to propose Sutherland as a suitable site.
- In July 2018, the UK Space Agency announced £2.5m grant funding to support the creation of the UK's first spaceport in Sutherland along with Lockheed Martin (£23.5m) and Orbex (£5.5m)
- Sutherland site was the only site to receive grant funding for vertical launch site.



# Market: Why Sutherland?

- Independent options assessment of potential sites for a spaceport identified Sutherland as a strong candidate.
- Natural advantages (good access to orbits)
- Developed engagement with Launchers
- Mainland location
- Skilled supply chain
- Supportive environment



# What is a spaceport?

## Plans do not include:

- **Horizontal launch capability**
- **Manned space travel**

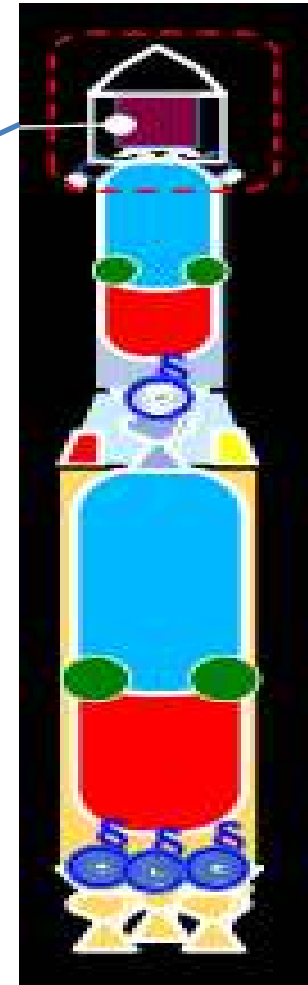
## Vertical launch site will include capability for:

- **Transport and preparation of launch vehicles**
- **Cargo: payload for spacecraft**
- **Fuels and associated services**
- **Other generic infrastructure for use as multi-use site.**



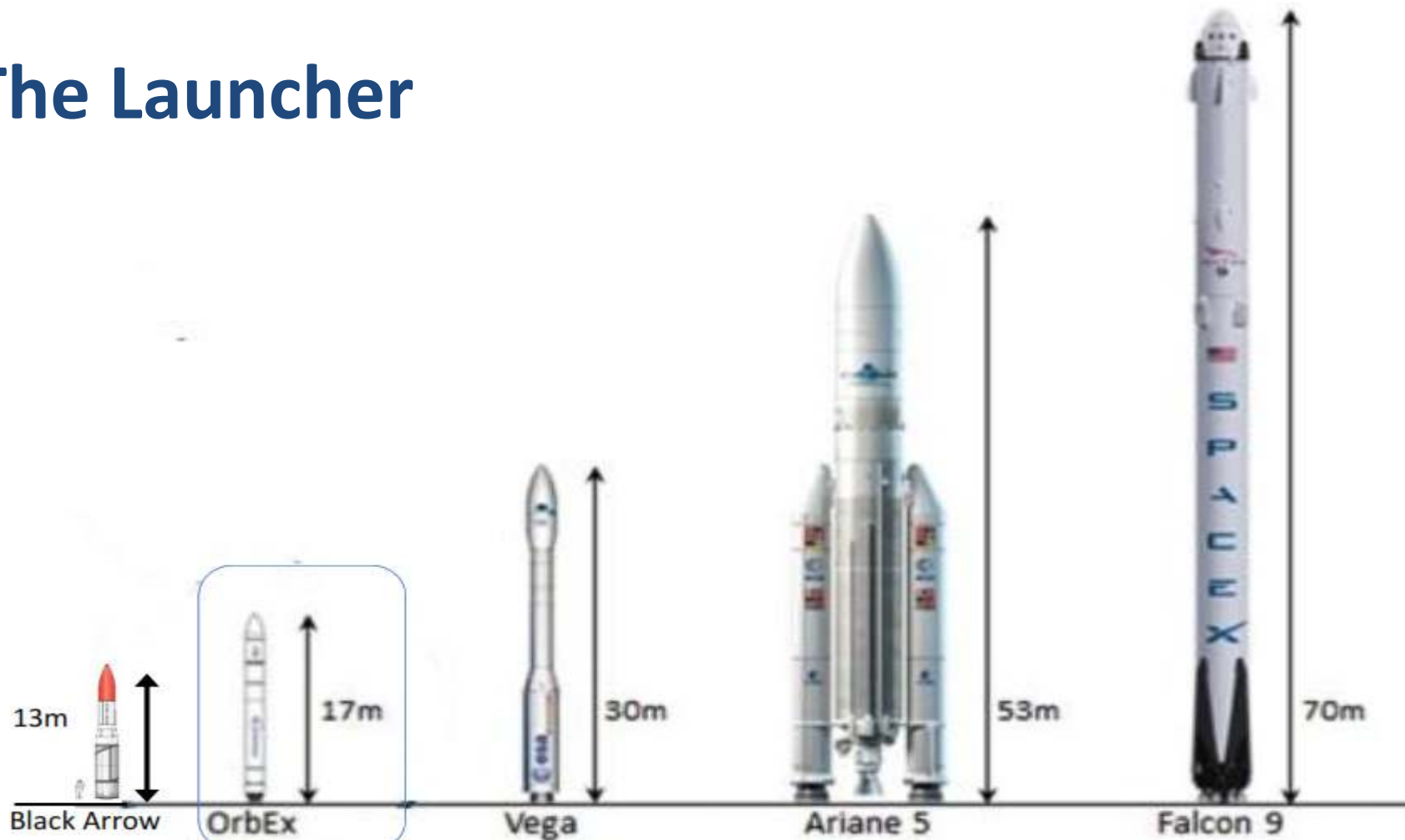
# Launch vehicles – Facts and Figures

- Less than 20 tonnes on the launch pad, about 17m high.
  - ~90% launcher propellant: LNG and liquid oxygen.
  - ~9% launcher systems (engines, tanks, etc)
  - ~1% satellite 'payload'
- Journey to space: 15-20 minutes
- All launchers parts (except satellite) are disposed of in international waters.



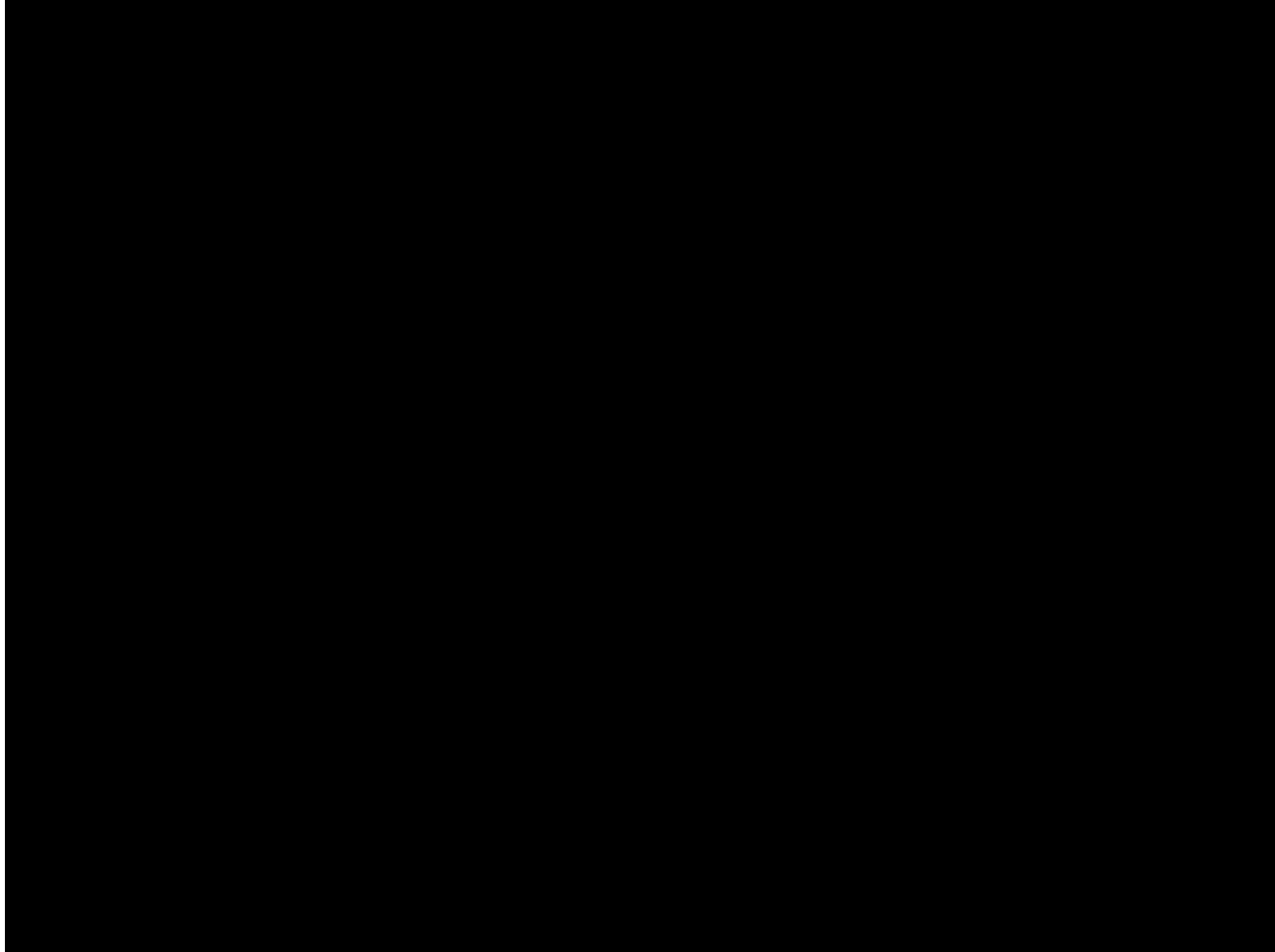
# Launch vehicles – Facts and Figures

## The Launcher



# Launch vehicles – Rocket Lab Launch

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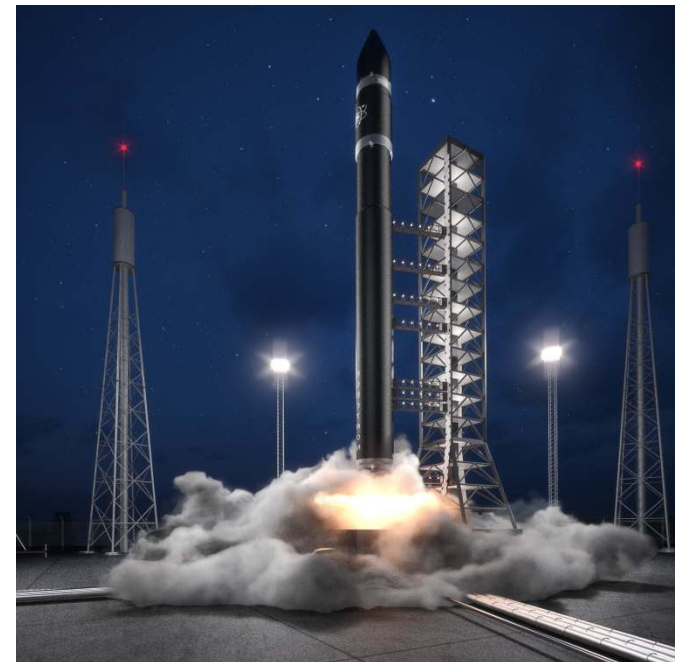




# Economic Impact

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- In time, **40** local jobs with a further **400** jobs in the region
  - Orbex committed to 150 jobs in Forres with a smaller number of jobs locally.
  - Lockheed Martin looking to secure two local apprentices/technicians in the short term. Longer term aspirations are under discussion.
  - Other Launch companies maintaining an interest in the development of this project.
- Initial launches will use international staff
  - Local staffing requirements will develop over time.



# Potential benefits

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- **Short term:**
  - **Construction opportunities**
  
- **Longer term:**
  - **40 jobs at Space Hub Sutherland (Launch Site Operator)**
    - **Maintenance teams to include:**
      - **Mechanical**
      - **Fuel Services**
      - **Security**
      - **Housekeeping**
      - **Weather monitoring**
      - **Ranges for clearance of areas**
      - **Control Room operatives**
      - **Ground Service equipment handlers**
      - **Management**
      - **Marketing**
      - **Administration**
      - **Electronic engineers**

# Potential benefits

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- **Other local opportunities being explored:**
  - **Launch service providers**
    - **Apprentices/technicians**
  - **Payload companies**
  - **Academic & research institutes**
- **Other benefits:**
  - **Supporting existing businesses to grow and develop**
  - **Inward investment potentials**
  - **Tourism activity**
  - **STEM activity**

# What has been done to date

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- Early discussions with Melness Crofters Estate on leasing land.
- Community engagement since August 2018
- Assembly of Capex costs
- Initial economic impact assessment report.
- A programme has been developed covering all activities to provide launch capability by early 2020s.
- Scottish Government Gateway Review
- Pre-planning advice
- Procurement activities
  - G&T contract for professional services
  - Design team appointed – March 2019
  - HIE Project team identified
- Environmental studies commenced (2018 onwards)
- Regulation discussion commenced
- Safety information being collated
- Scoping document for Environmental Impact Assessment submitted to Highland Council

# Work ongoing

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- **Leasing option with MCE moving forward positively**
- **Continue to refine:**
  - **Project concept**
  - **The market**
  - **Facilities required**
  - **Information required for planning consultation stage**
- **Continue to better understand**
  - **Planning requirements**
  - **Launch operator facilities**
  - **Design of space hub**
  - **Regulation**

# Next Steps for project

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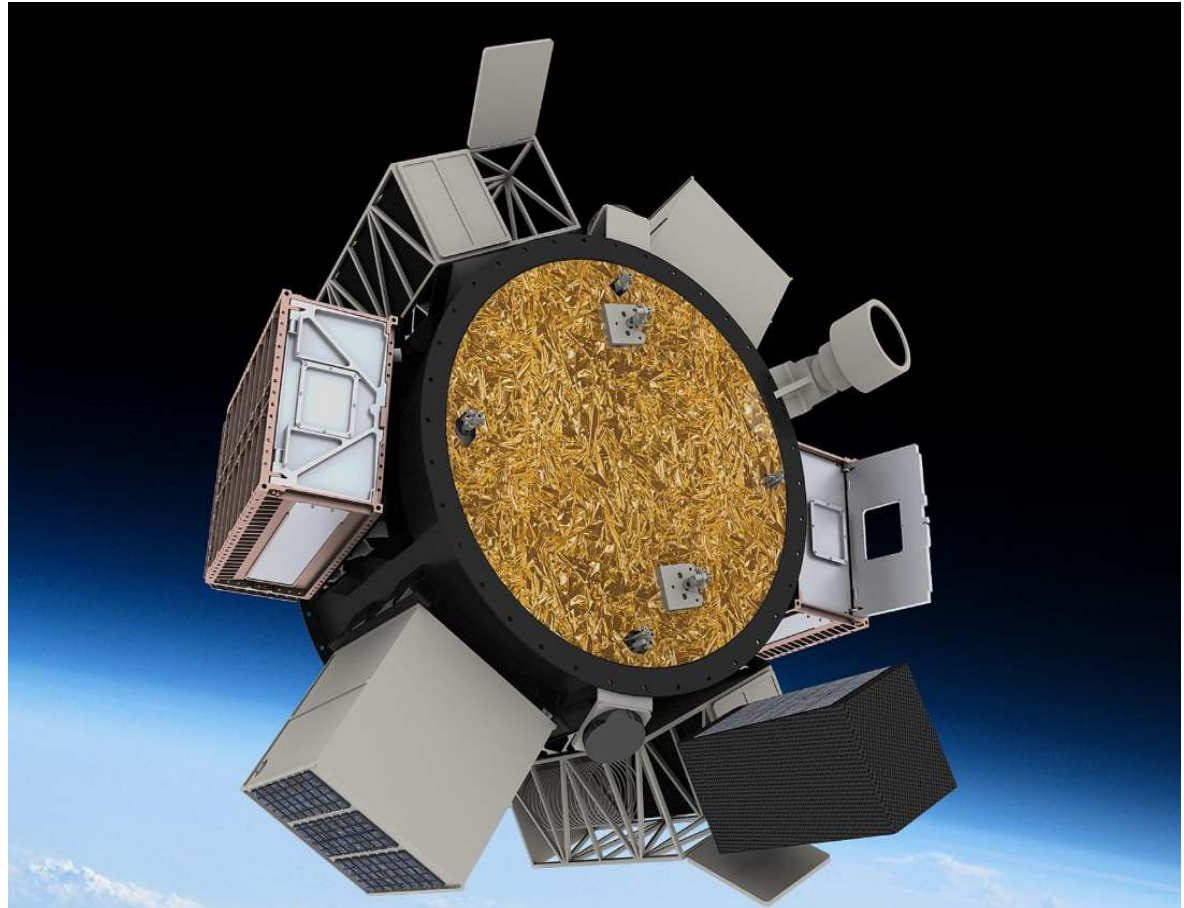
- **Environmental studies – ongoing activities**
- **Procurement of Launch Site Operator – ongoing**
- **Prior Application Notice (date to be agreed)**
  - 12 week consultation
- **Planning application submitted – late 2019**
- **First Launch – early 2020s**

# Conclusions

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- **Employment and talent attraction for North Sutherland and Caithness.**
- **Opportunity to sustain the reputation of the North Highlands as a centre for science and technology**
- **Still risks to project completion**
- **Long term prize is jobs for the area**

**Questions?**



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