Jun 5th, 2:30 PM

OneWeb Satellites

Christopher Winslett
Director of Programs, OneWeb Satellites (OWS)

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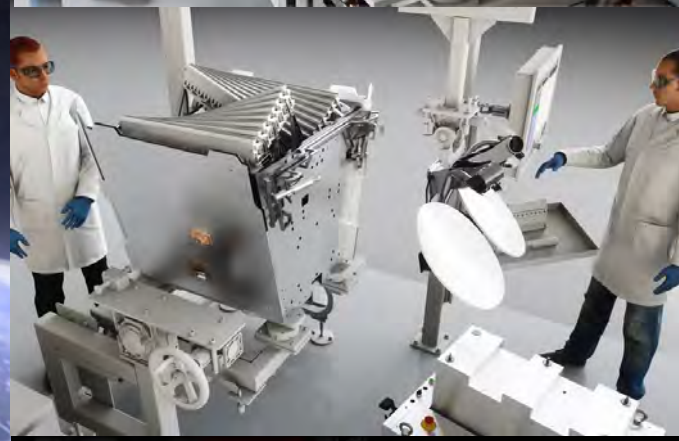
Chris Winslett,

Director of Programs, OneWeb Satellites

June 2019



ONEWEB and ONEWEB-SATELLITES ARE BUILDING THE WORLD'S LARGEST

CONSTELLATION OF SATELLITES

Making affordable Internet access possible everywhere.

https://www.youtube.com/watch?v=4hu65as2iak&feature=youtu.be

WE’RE ON A MISSION TO CONNECT

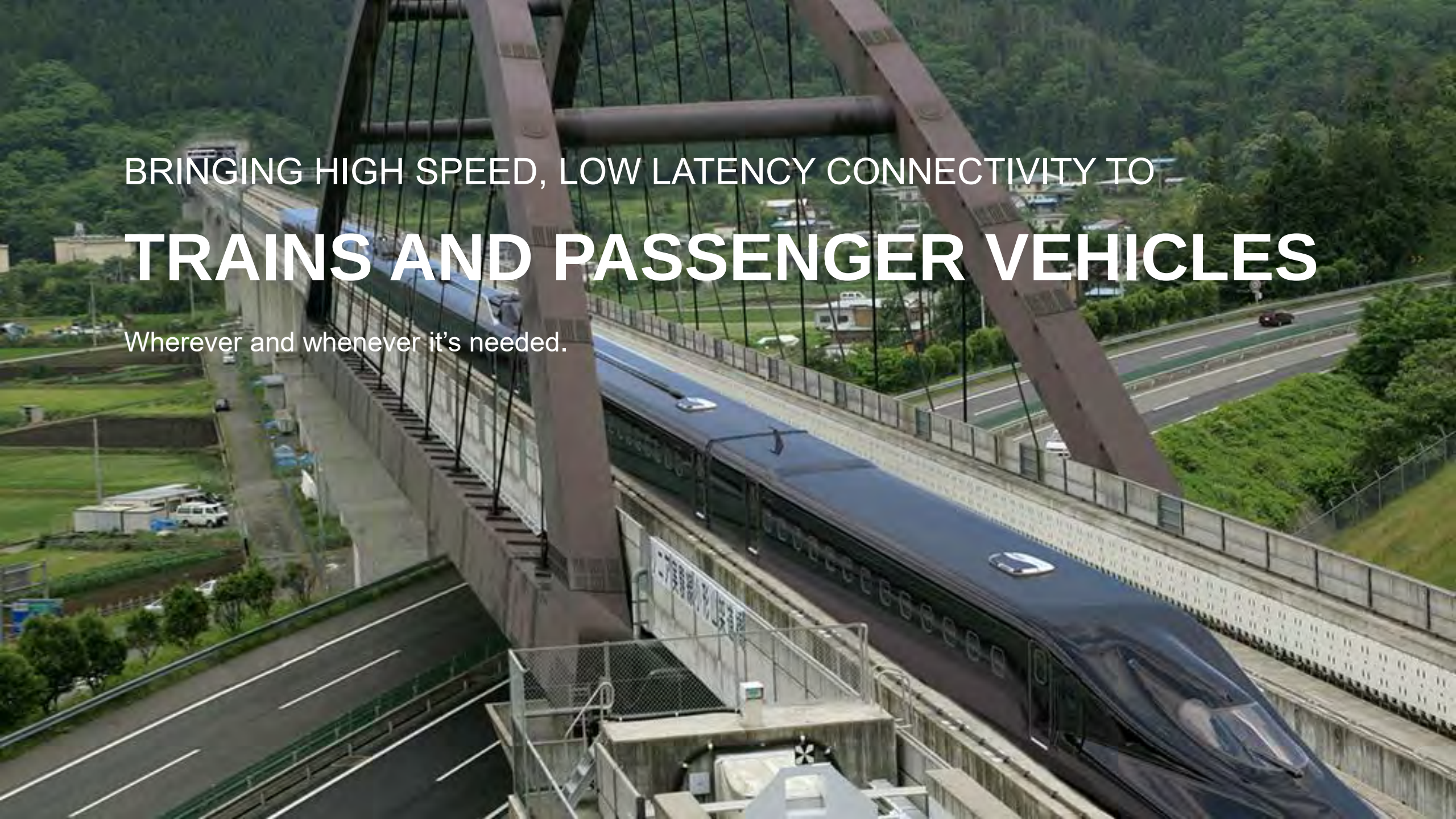
EVERY SCHOOL ON EARTH

So that everyone has the same opportunities to learn, create, discover, and share information.

EXPANDING IN-FLIGHT CONNECTIVITY, ENABLING LOW LATENCY

BROADBAND AT 30,000 FT

Providing business, commercial, and military customers with airtime services



BRINGING HIGH SPEED, LOW LATENCY CONNECTIVITY TO

TRAINS AND PASSENGER VEHICLES

Wherever and whenever it’s needed.

ADVANCEMENTS IN LAUNCH TECHNOLOGY ENABLE

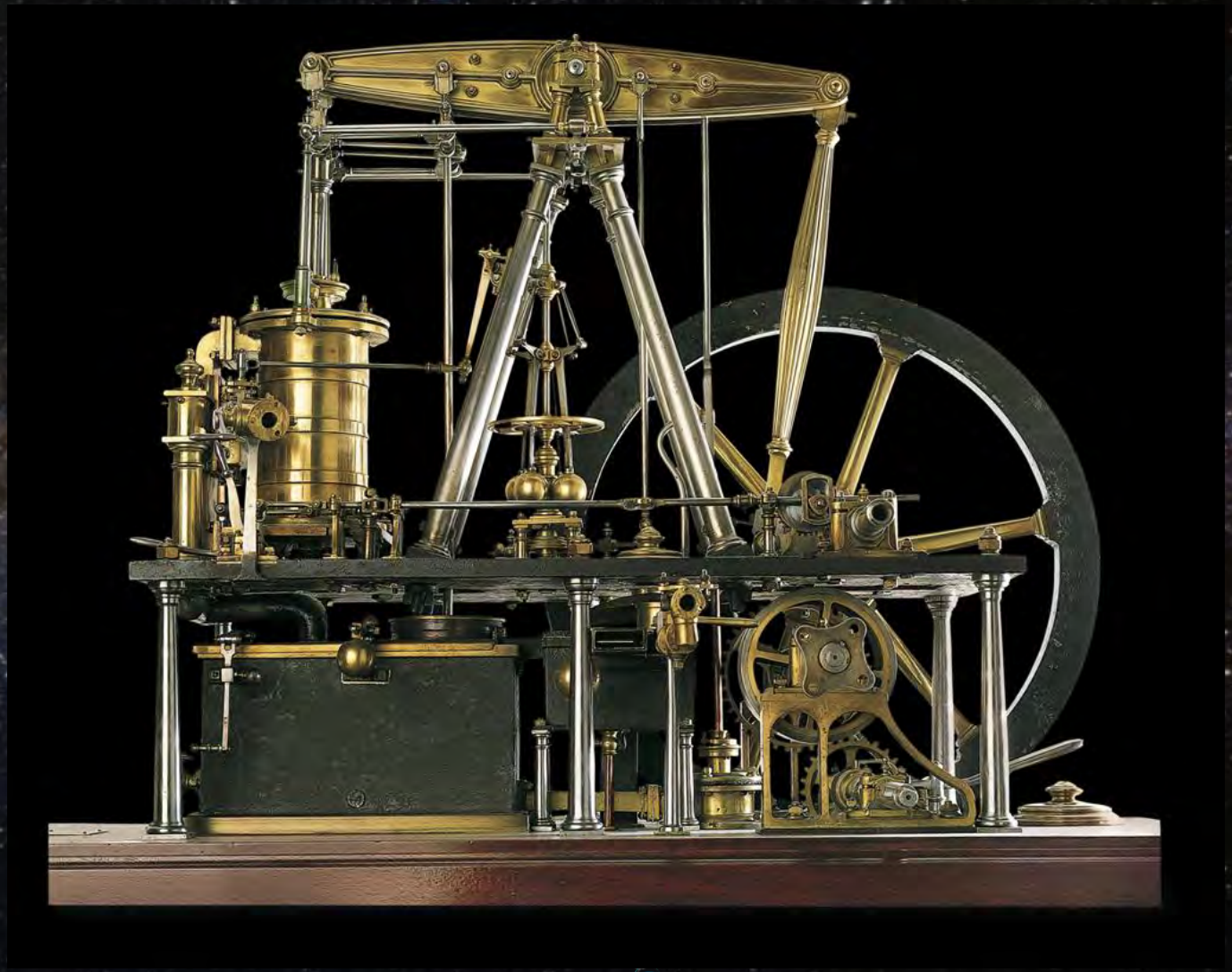
MULTIPLE SATELLITE LAUNCHES

Dramatically reducing the costs, and allowing for up to 36 spacecraft, per launch.

1st Industrial Revolution Steam Power

Velocity, scope, Impact

Steam Power



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2nd Industrial Revolution

Velocity, scope, Impact

Electric Power / Mass Production

3rd Industrial Revolution

Velocity, scope, Impact

Electronics & Information Technology

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We are now entering the 4th Industrial Revolution

Velocity, scope, Impact

Fusion of physical, digital and biological

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How does this impact the Satellite Manufacturing?

https://www.youtube.com/watch?v=elO1lWaUblE

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Space Industry Today

Space Industry Today	OneWeb Satellites
Prototype production	Serial Production (650 units)
High recurring cost	Low recurring cost
Constellations of 4	Constellations >650
Assembly Duration 3 -6 months	Assembly Duration <2weeks
Production Capacity 4-6 / year	Production Capacity 2 to 4 / day

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Disruptive approach for design and production

- Design-to cost
- Design to manufacture
- New test approaches

From the selection of components, production of equipment and satellite assembly, integration and testing.

- State-of-the-art integration of proven:
  - Equipment
  - Inspection methods
  - Test equipment and
  - Automated data acquisition systems

support end-to-end integration and test activities.

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Revolution in space design and manufacturing

- Unprecedented production rate of up to 15 satellites per week, unprecedented number of hardware, e.g.:
  - 1800 star trackers
  - 15,000 power amplifiers
  - 550,000 inserts

- Unique aspect of scale: mass production at low satellite cost means Design for Manufacture mindset
  - Modular satellite design to shorten production lead time
  - Economy of scale and continuous learning for supplied hardware
  - New approach for production and test processes

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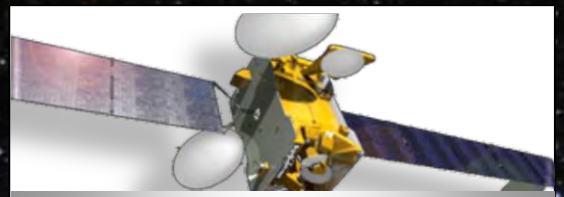
Leveraging Industry leading heritage, to achieve our vision



Space reliability methods applied to Design to Manufacture (D2M)

Space product AIT knowledge and experience

Civil Aircraft serial production expertise

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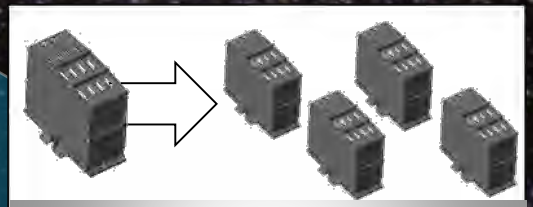
Best in class industrial approach: integration of supply chain, design, manufacturing

Serial production heritage



Automotive experience applied to electronics manufacturing, testing

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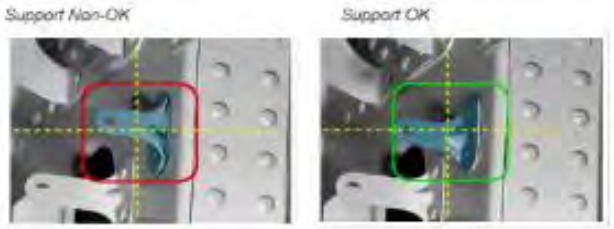
Smart Automation to ensure industrial efficiency

Automation Processes: Leading-Edge Technologies

Smart Tools

Automatic Optical Inspection



Big Data: Analysis & Predictive Analytics

Augmented reality for inspection

Automatic Coupling

Auto Guided Vehicle

Automated Test Sequences

Cobots: assisting critical activities

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Thank you