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KEEPING LONDON SAFE, SECURE AND ON THE MOVE

A digital journey:
Modernising London's tube

23 MAY 2018
ANDY BELL, VP URBAN RAIL SIGNALLING
THALES UK

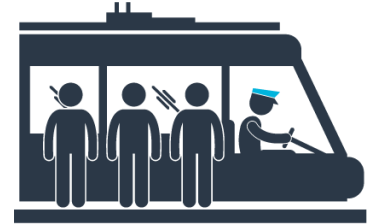# London Underground in numbers

1.4 Billion
The number of people travelling on the Underground in 2016/17

14-15 Million
The number of journeys made by public transport every day by 2041

600
The length of Underground Track signalled by Thales (in km)

192
The number of new S-Stock trains fitted for new signalling system under 4LM

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London's transport agenda

"Transport is a cornerstone… for a fairer, greener, healthier & more prosperous city. Transport doesn't only shape our daily lives and determine how we get around… it can create new opportunities… and shape the character of our city. [Through delivering] the affordable, reliable and safe service Londoners deserve [there is potential] to unlock the power of transport to improve people's lives."

- Mayor's Transport Strategy

HELP TO SUPPORT
London's population growth in the medium term

HELP BUSINESSES EVOLVE
and become more competitive

SUPPORT ECONOMIC DEVELOPMENT

Create new sustainable **HIGH-SKILLED JOBS**

The role of digital to help meet these objectives…

SMART TECHNOLOGIES
help increase capacity and make services more efficient, safer, cheaper and greener

Need to continue **IMPROVING SAFETY AND SECURITY**

NEED TO PROVIDE
quicker and more flexible services

IMPROVE TRANSPORT OPPORTUNITIES
for all Londoners

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Signalling journey

A GLOBAL PEDIGREE
currently securing **85 metro lines** in **40 cities** along **2,500kms of track** around the world
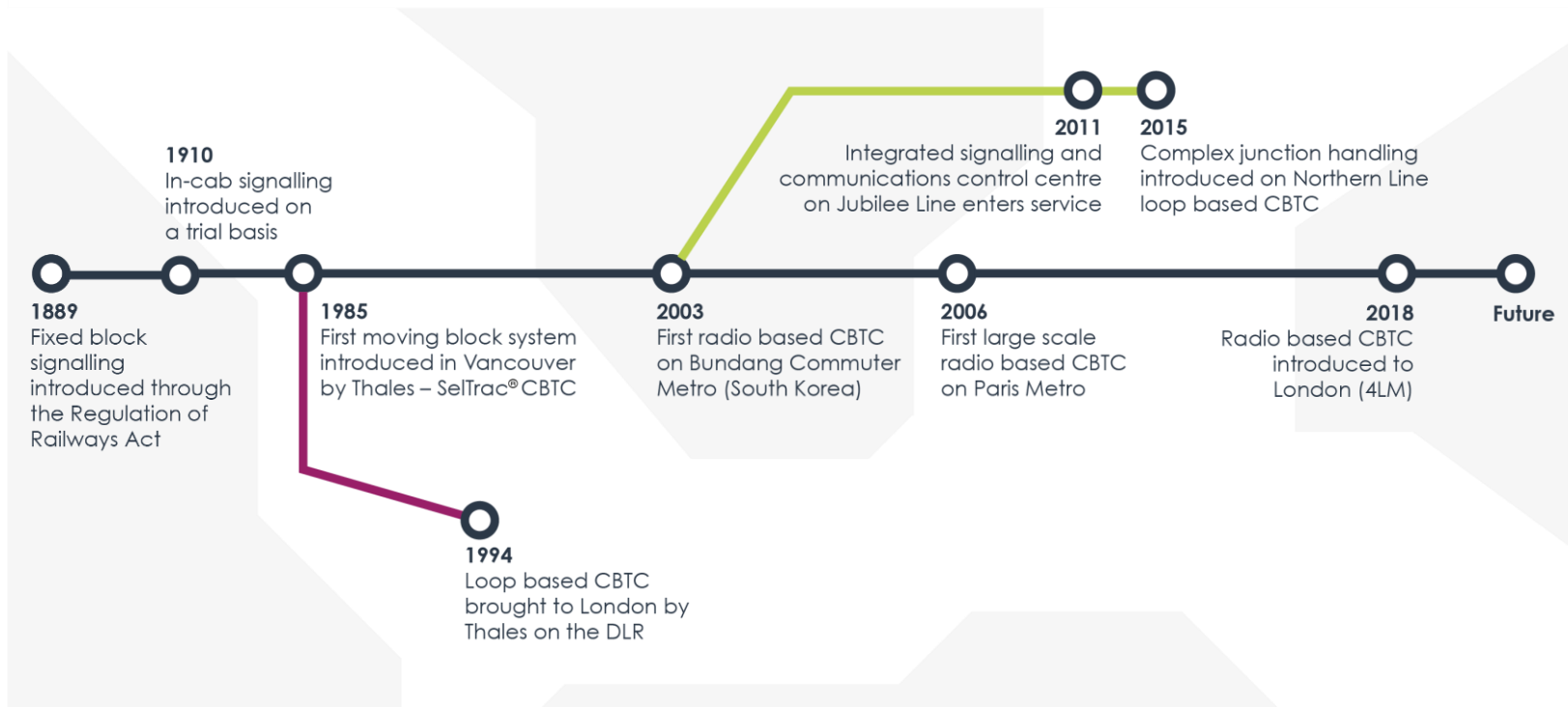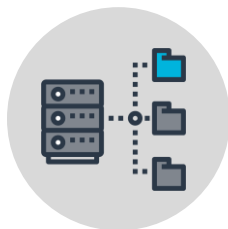
Can draw on experience of
8,000 **TRANSPORT AND TECHNOLOGY SPECIALISTS WORLDWIDE**

Going above and beyond to
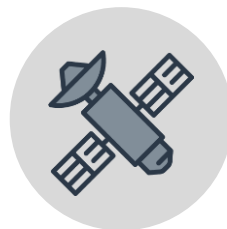**INNOVATE AND TEST ADVANCED MODELS**
and specialised technology

2011
Integrated signalling and communications control centre on Jubilee Line enters service

2015
Complex junction handling introduced on Northern Line loop based CBTC

1910
In-cab signalling introduced on a trial basis

1889
Fixed block signalling introduced through the Regulation of Railways Act

1985
First moving block system introduced in Vancouver by Thales – SelTrac® CBTC

2003
First radio based CBTC on Bundang Commuter Metro (South Korea)

2006
First large scale radio based CBTC on Paris Metro

2018
Radio based CBTC introduced to London (4LM)

Future

1994
Loop based CBTC brought to London by Thales on the DLR

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Future direction of modernisation

Integrated Big Data

Connectivity

Cyber Security

Artificial Intelligence

Integrated solutions

Signalling & comms

Trains

Depots

Maintenance

Passenger experience

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