

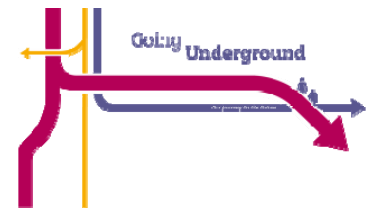


SIEMENS

Infrastructure & Cities Sector | Rail Systems Division | Steve Scrimshaw

Going Underground

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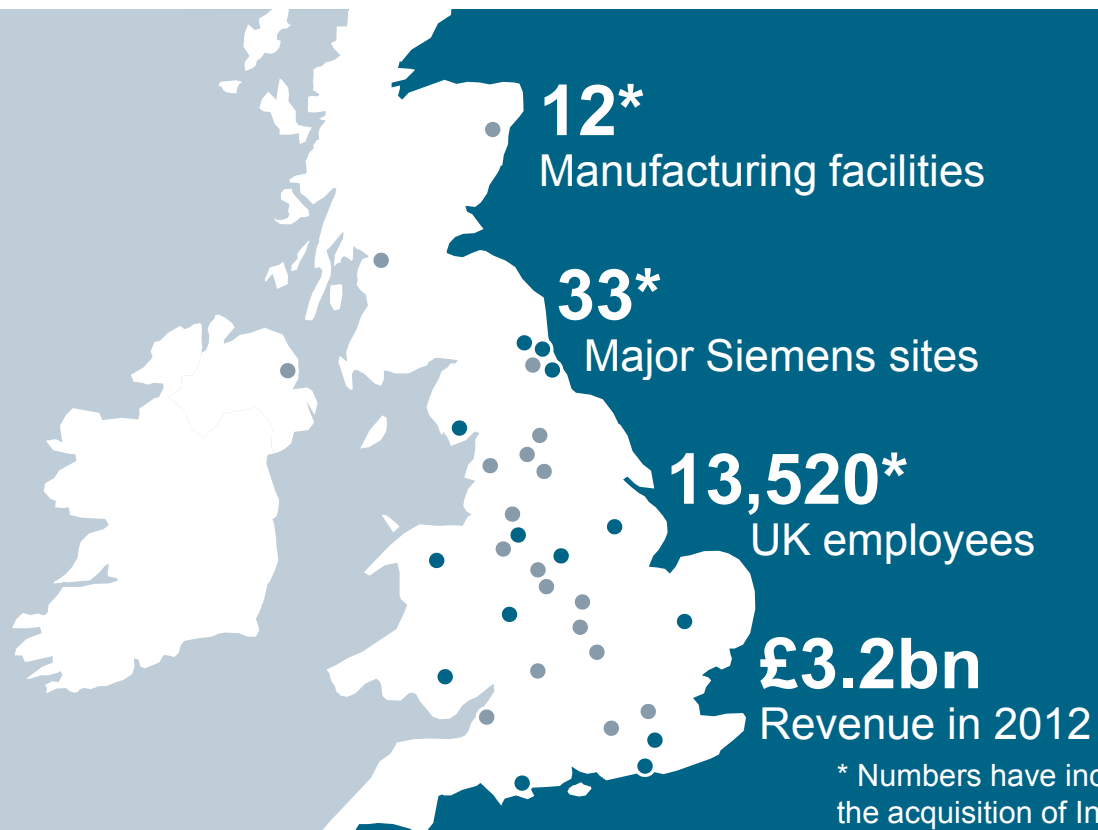


Answers for infrastructure and cities.

Siemens UK in numbers: FY13



170 YEARS of HISTORY
answers, since 1843



* Numbers have increased following the acquisition of Invensys Rail

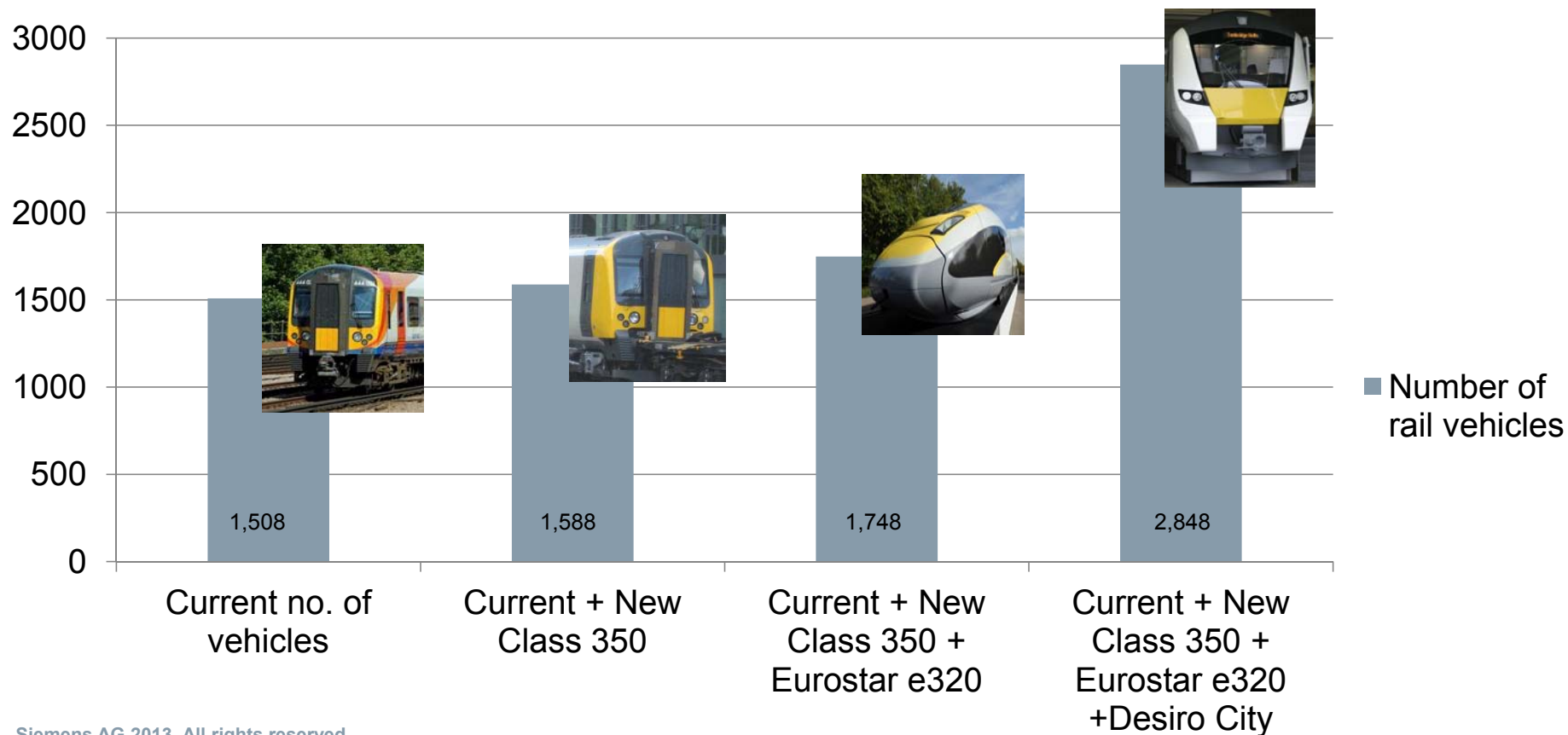
Official figures: FY13

Rail Systems UK: current fleet exceeds 1,500 vehicles



Over 350 trains in service each weekday travelling over 50 million miles per annum

Siemens Rail Systems UK: a growing business



Rail Systems UK sites – own depots supported by client-owned facilities

Heathrow Express, CL332, CL360/2



York, TPE CL185



Northam, South West Trains, CL450/444



Siemens has the widest experience in Full Train Service contracts and is at present fulfilling **SIX** Train Service Agreements (TSA) for Commuter Multiple Units



Ardwick, TPE, CL185



Shields, FSR, CL380



Kings Heath, LM, CL350/1, CL350/2

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Plus constructing two additional depots as part of Thameslink Rolling Stock Project



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Thameslink: an update



- The Desiro City will be the UK's first, second generation train
- Design reviews completed
- Two carriage, full scale mock-up manufactured
- Pre-series vehicles running at Wildenrath
- Traction tests ongoing
- Bogie tests ongoing
- Car bodies now in production
- Depot construction well underway

Industry challenges: skills gap

Ageing population / workforce retirement profile

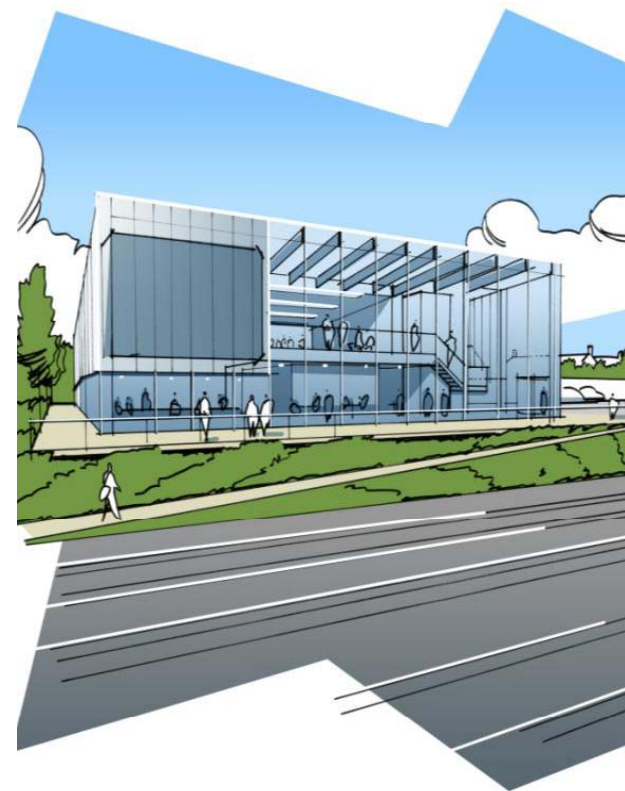
Significant technological advancements on new trains

Drive to attract new talent to the sector

Substantial industry growth and investment

Current geographical concentration of labour / skills

Requirement to bring 4,500 new people into traction & rolling stock within next five years & upskill existing workforce



Industry advancements: electrification



Ardwick is one of six* existing Siemens-built depots in UK

- Built 2006 at a cost of more than £30million
- Current home to 51 x Class 185 diesel units

* Two further depots currently under construction as part of TRSP

Government focus on electrifying the railways

- £200 electrification programme in the North West3ew4
- Order for new electric units / depot electrification plan



Hybrid diesel-electric depot

- Work began September 2012, completed this month
- New Class 350/4 EMUs start to come into service end 2013
- Fundamental step in helping train operator deliver more capacity and faster journey times

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Rail Automation: scope of offering



Interlockings



Communications



CBTC and driverless



Trackside



Crossings



ERTMS



Control Centres



Design



Maintenance



SCADA

Rail Automation: Crossrail signalling, control and communications

- Europe's largest construction project
- The route will pass through 37 stations and run 118km between Maidenhead, Heathrow, Shenfield and Abbey Wood
- Will operate a 24 TPH service between Paddington and Liverpool Street
- CBTC signalling and interlocking for the central area of the Crossrail network
- Station management systems, including customer information, public address and CCTV
- Rail and station SCADA systems including traction power, tunnel lighting and drainage, station equipment
- Radio systems
- Interfaces with railways at each end



Rail Automation: Victoria Line signalling upgrade

- £10 billion, nine-year upgrade programme of the Victoria Line
- Peak services increased from 28 to 33 trains per hour
- Overlay delivery strategy allowed old and new trains to run during the upgrade works
- Includes RailCom system integrating line management, operational comms and signalling systems
- Line remained operational during the day throughout the project
- Victoria Line is the busiest line of the London Underground network, carrying over 183 million passengers each year

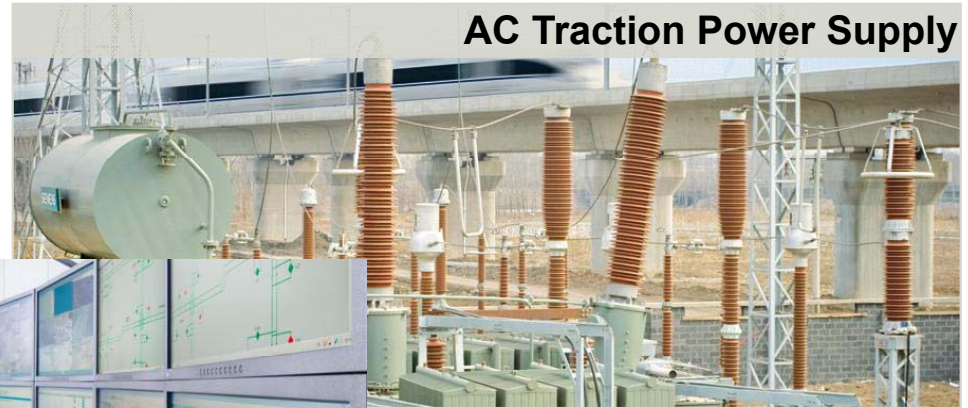


Rail Electrification: market segments

Contact Line for Mainline Railways



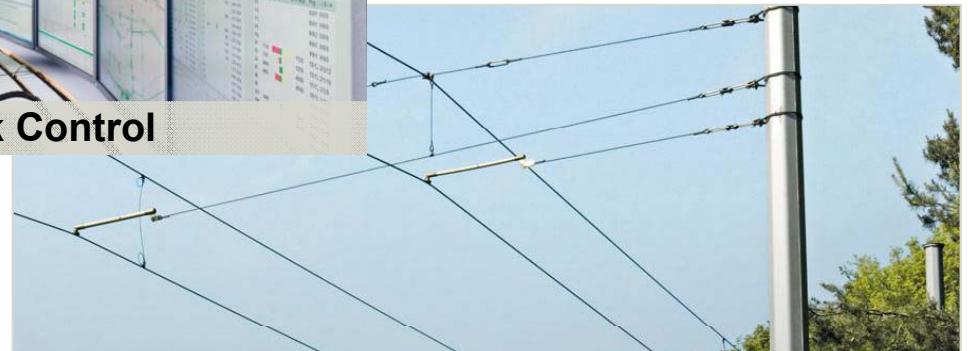
AC Traction Power Supply



DC Traction Power Supply



Network Control



Contact Line for Mass Transit

Change: the only constant within our industry



Our journey to the future



Thank you for your time



Steve Scrimshaw

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