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FORGE CONNECTIVITY WHITE PAPER 03

What UK Mobile Can Learn from the US, Japan and China

Three approaches to network choice, digital operations and infrastructure investment

United States

Make network choice usable after signup.

Japan

Design digital onboarding and network operations together.

China

Coordinate deployment and measure what it delivers.

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What the three examples show

United States / Network choice after signup

US Mobile, a mobile virtual network operator, offers three underlying networks. Its app lets customers request a transfer for an existing line and choose an eSIM or physical SIM. The transfer is a deliberate account action. It is distinct from automatic failover during an outage. [1, 2]

Japan / Software and service design

Rakuten Mobile launched its commercial service in April 2020 with a software-led, virtualised network using open radio access network architecture. Rakuten also describes online contracting, electronic identity checks and eSIM activation in its onboarding. Its example shows how a new operator can design network operations around automation from the outset. Existing UK operators would have to integrate with established networks, suppliers and operational processes. [3, 4, 9]

China / Deployment at national scale

China reported 4.838 million 5G base stations at the end of 2025, citing its Ministry of Industry and Information Technology. The figure describes the scale of deployment. A UK comparison would need common definitions, comparable geography and measures of what users can do indoors, along routes and at busy times. [5]

What transfers to the UK

Network choice. Let eligible customers compare host coverage and see transfer cost, timing, device requirements and progress before and after switching.
Digital operations. Automate the steps between ordering and activation. Give customers a clear status and let support staff recover failed orders.

Deployment. Coordinate improvements across operators, transport bodies and landlords where the same routes and buildings repeatedly fall short.

Where UK investment can help

Ofcom’s January 2026 snapshot put 5G standalone coverage outside premises at 49% to 85% across the three reporting operators that had deployed it, using its high-confidence threshold. In a separate study covering 24 rail segments, 58% to 83% of tests had poor performance, depending on the network. These studies measure different things. Together they illustrate why rollout reporting should sit alongside task-based tests. [6, 7]

The CMA accepted binding Vodafone and Three commitments covering network rollout and three years of pre-set wholesale prices and contract terms. The CMA estimated the network plan would require £11 billion of investment over eight years. As the rollout progresses, performance and the services available to wholesale customers are outcomes worth tracking. [8]

1. Fund improvements at locations that repeatedly fail

Use measured results to prioritise rail corridors, challenging buildings and rural business sites. Compare the share of calls, uploads or transactions that complete before and after work at the same locations and times.

2. Make wholesale access workable in practice

Agree which plans and devices can use features such as eSIM and standalone 5G. Give virtual operators access to test environments, consistent order statuses and escalation routes. Track activation failures and time to resolve them.

3. Give customers a clearer way to change networks

Pilot host-network transfers for eligible lines. Explain any service interruption and changes to features or roaming, then measure completion time and support contacts. Treat continuity during an outage as a separate requirement.

Forge’s perspective

Forge is developing tools to help UK businesses compare coverage and manage lines in one place. The near-term opportunity is to make network choice clearer at purchase and line management easier after activation.
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Sources and scope

This paper uses selected company examples and official statistics. The US and Japan examples describe individual providers. The China figure counts infrastructure, while the UK figures describe predicted coverage and measured performance on selected rail segments. The recommendations are Forge's assessment of what the UK could test.

[1] US Mobile network options. Three host network options.

[2] US Mobile network switching. App-based transfers with an eSIM or physical SIM.

[3] Rakuten Mobile commercial launch. 8 April 2020.

[4] Rakuten Mobile network architecture. Operator account of its virtualised open RAN launch.

[5] China 5G base station count. Published 28 January 2026, citing MIIT.

[6] Ofcom Connected Nations Spring 2026. January 2026 coverage snapshot.

[7] Ofcom mobile performance on trains. 3 June 2026.

[8] CMA Vodafone and Three merger undertakings. See also the CMA annual report for the investment estimate.

[9] Rakuten eSIM onboarding. 2022 investor presentation on digital contracting and activation.