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USA vs Europe: network investment at stake

Framework agreement Orange-IDATE 2019

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Summary

1. Revenue and usage

- Telecom service revenues in Europe still half of those in the USA
- With significant gaps in usage, both in volume (traffic)…
- … and in value (ARPU)
- Unit prices (data mobile per MB) now very close on both sides of the Atlantic

2. CapEx

- CapEx still far higher in the USA (x1.6)...
- … despite sustained growth in Europe
- Relative weight (CapEx to revenue) heavier and heavier for European telcos

3. New infrastructure deployment

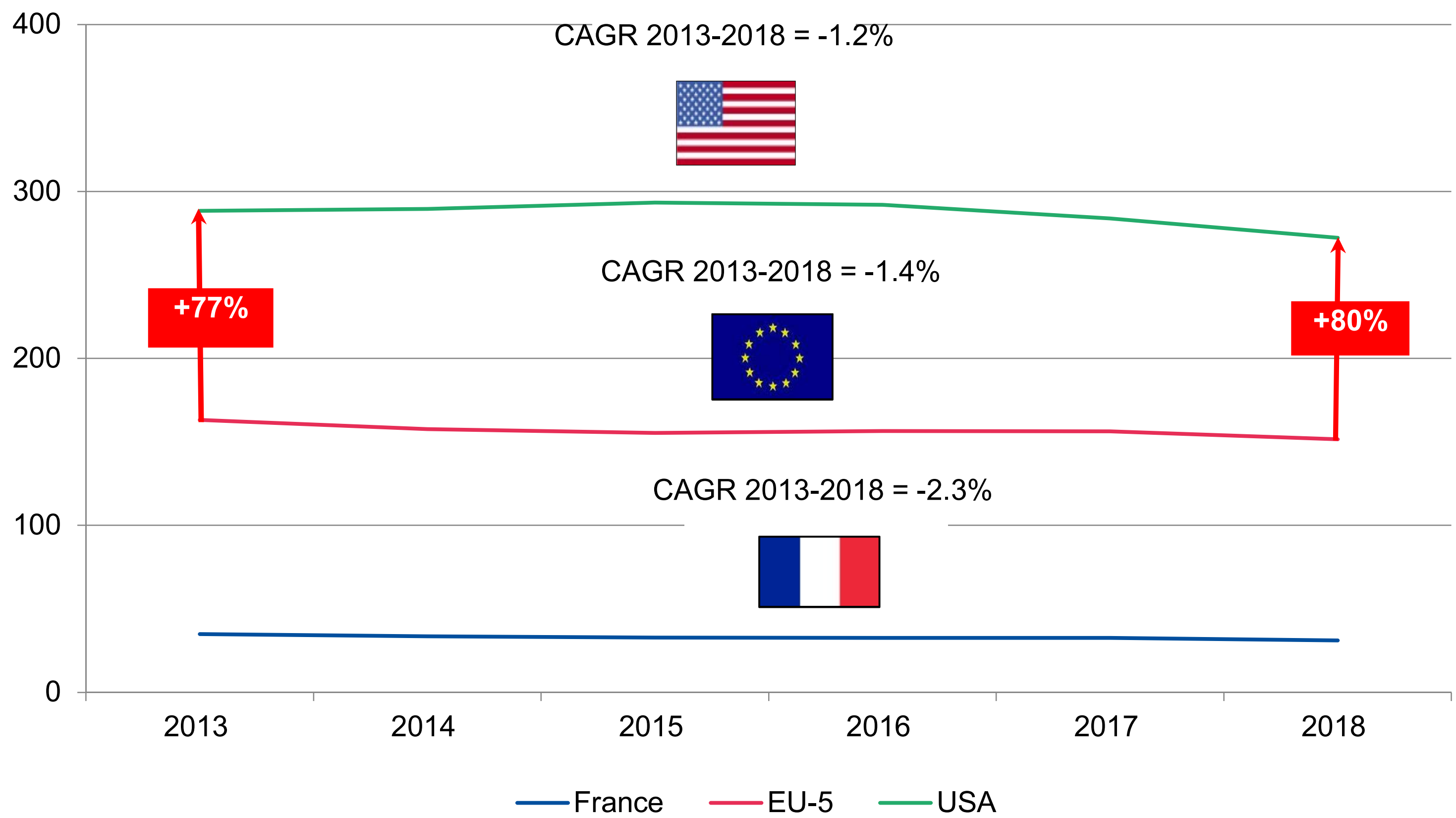
- A significantly higher proportion of mobile broadband customers (in total mobile customer base) and of very high speed fixed subscribers (in total fixed broadband subscriber base) in the USA
- The higher the speeds, the broader the gaps

01 | Revenue and usage

Telecom service revenues going down in the USA but still much higher than in Europe*

> Strong pressure on European telcos!

Telecommunications services retail revenues (billion EUR)



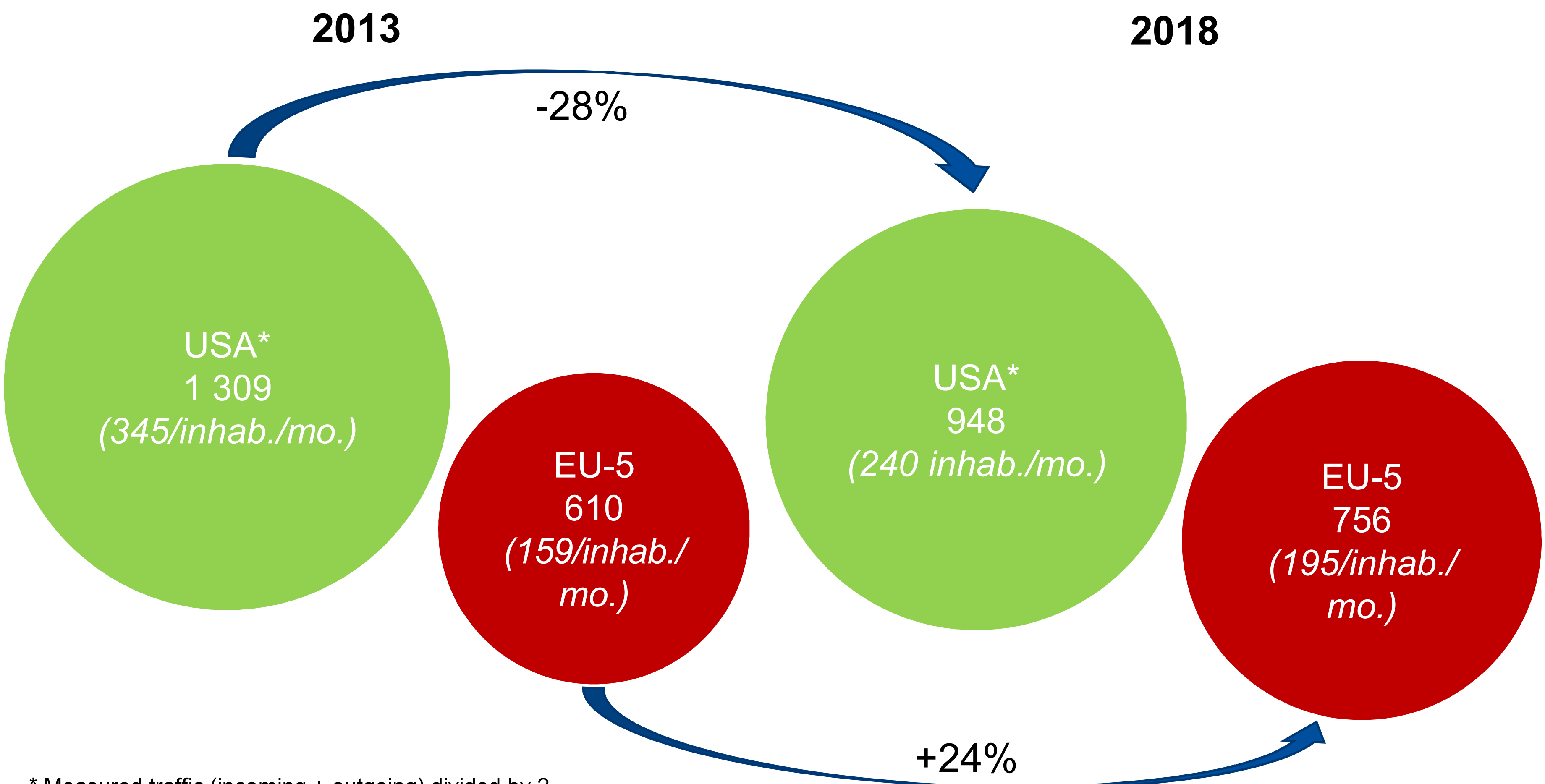
ratio USA vs. EU-5*	1.8	1.8	1.9	1.9	1.8	1.8

* EU-5 = the largest 5 European countries, namely Germany, France, the UK, Italy and Spain

Very significant gaps both in traffic… (1/2)

> Voice traffic has been traditionally high in the USA:
  - in fixed and in mobile as well
  - However gap is progressively narrowing (from more than 1:2 in 2013 to 1:1.2 in 2018)

Mobile voice traffic (billion minutes per year and minutes/inhab./month)

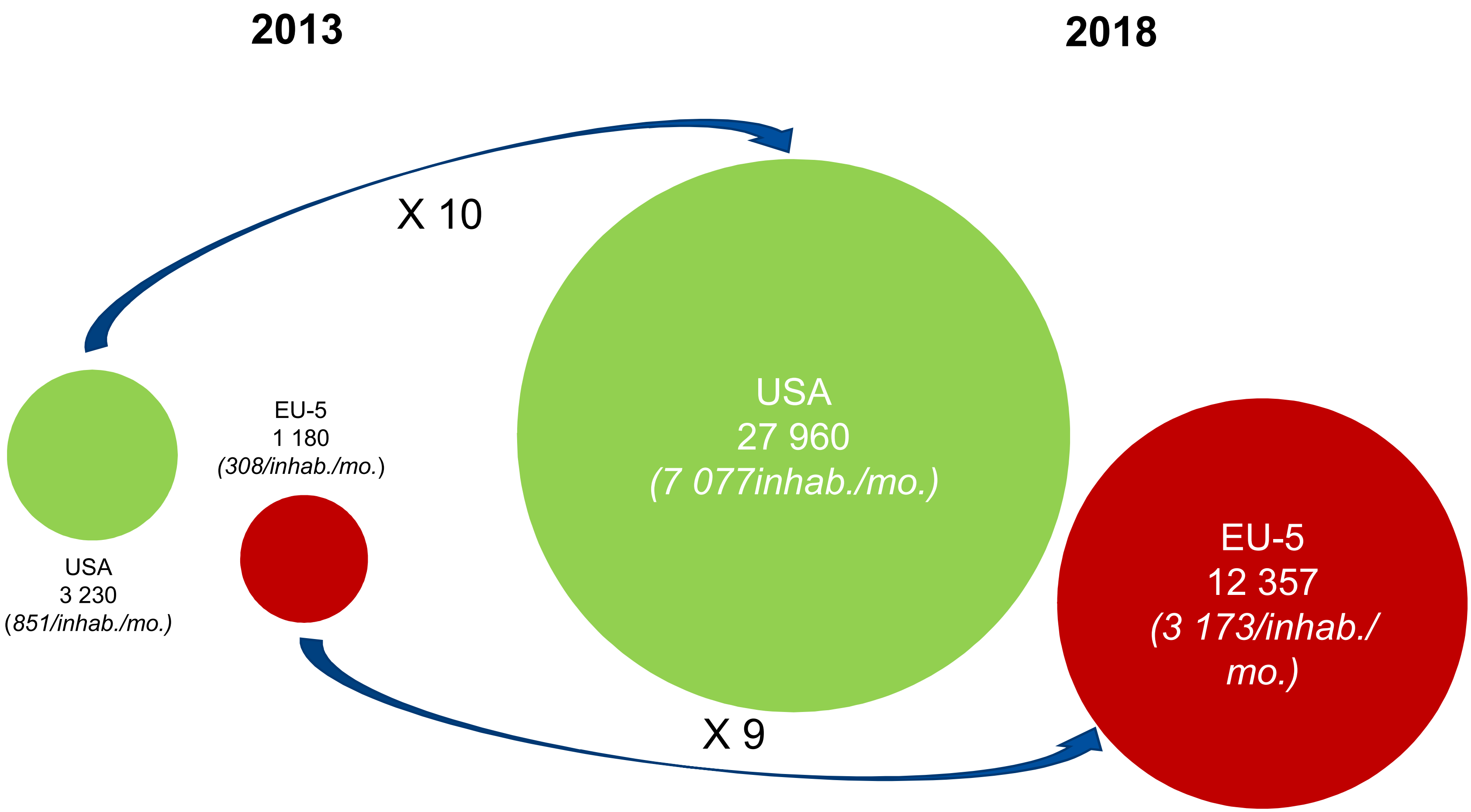


* Measured traffic (incoming + outgoing) divided by 2

Very significant gaps both in traffic… (2/2)

> The gap remains more significant in data traffic

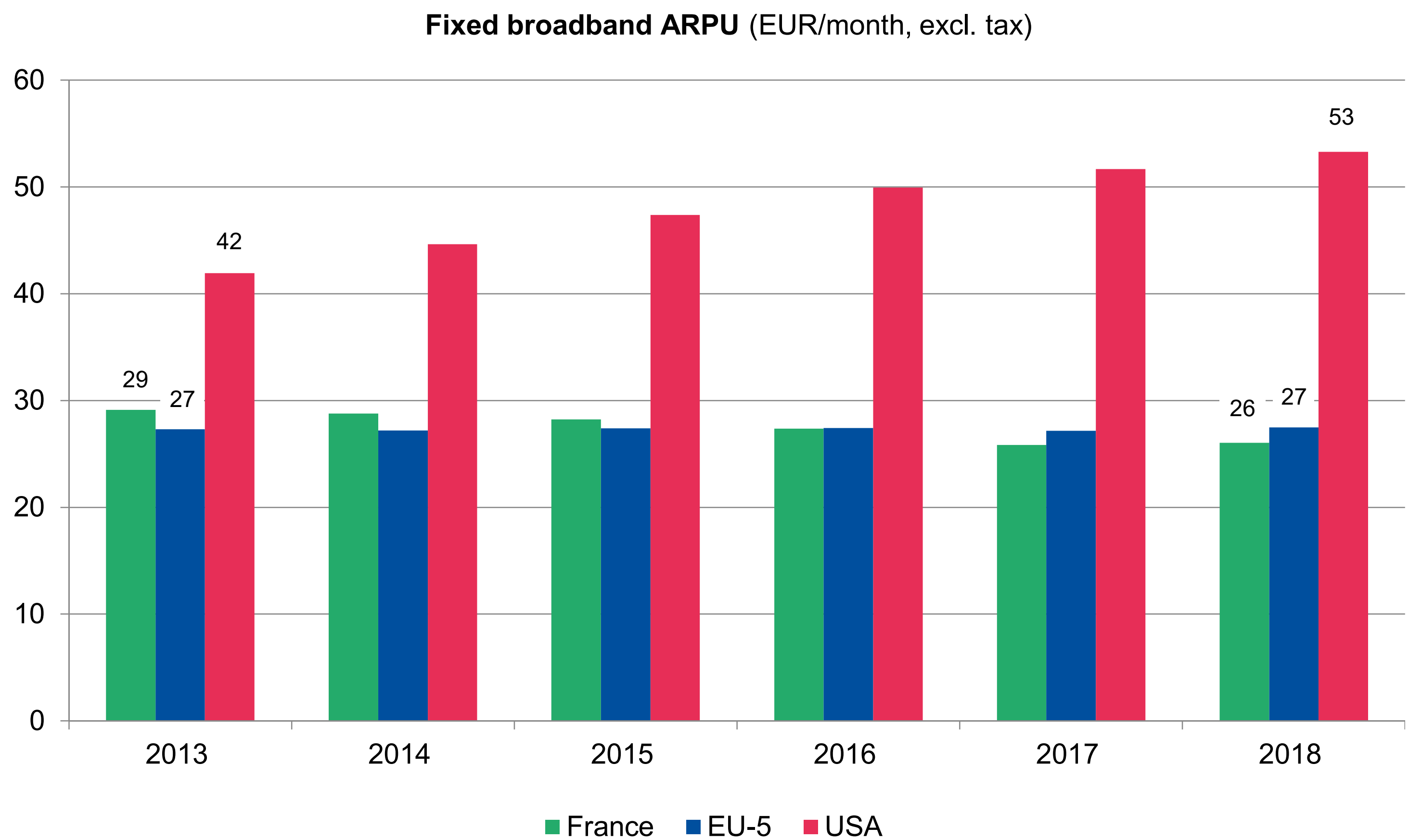
Mobile data traffic* (billion PB per year and et MB/inhabitant/month)



* However, mobile only accounts for a small part of total Internet traffic

… and in ARPU (1/2)

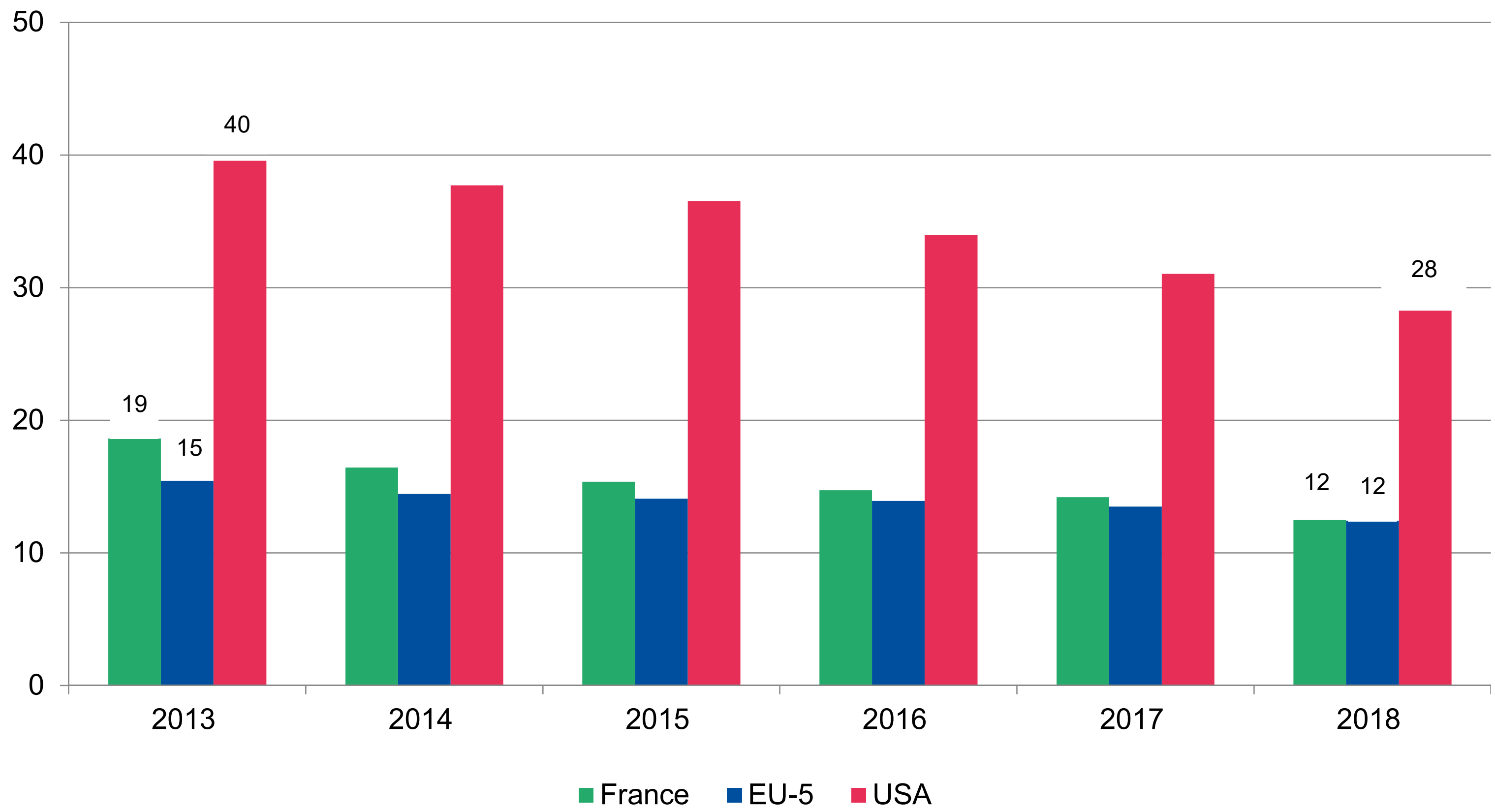
> In fixed broadband, now a 1:2 ratio between EU-5 and the USA



… and in ARPU (2/2)

> In mobile, a larger 1:2.3 ratio between EU-5 and the USA!

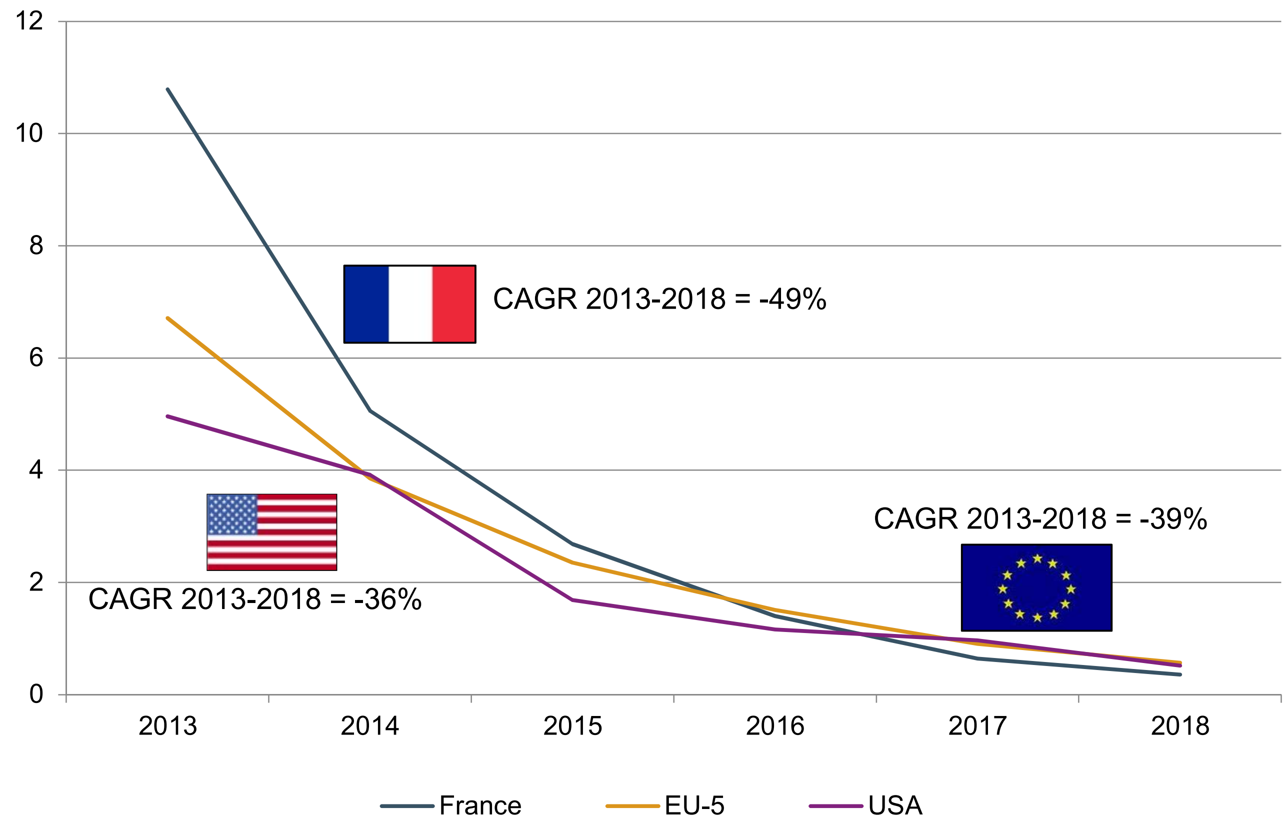
Retail mobile ARPU (EUR/month, excl. tax)



Unit prices now very close on both sides of the Atlantic

> The average price of data mobile (per MB) decreased very significantly in Europe over the recent years and it is now at the same level as the price in the USA

Average price of data mobile* (MB in EURcents excl. VAT)



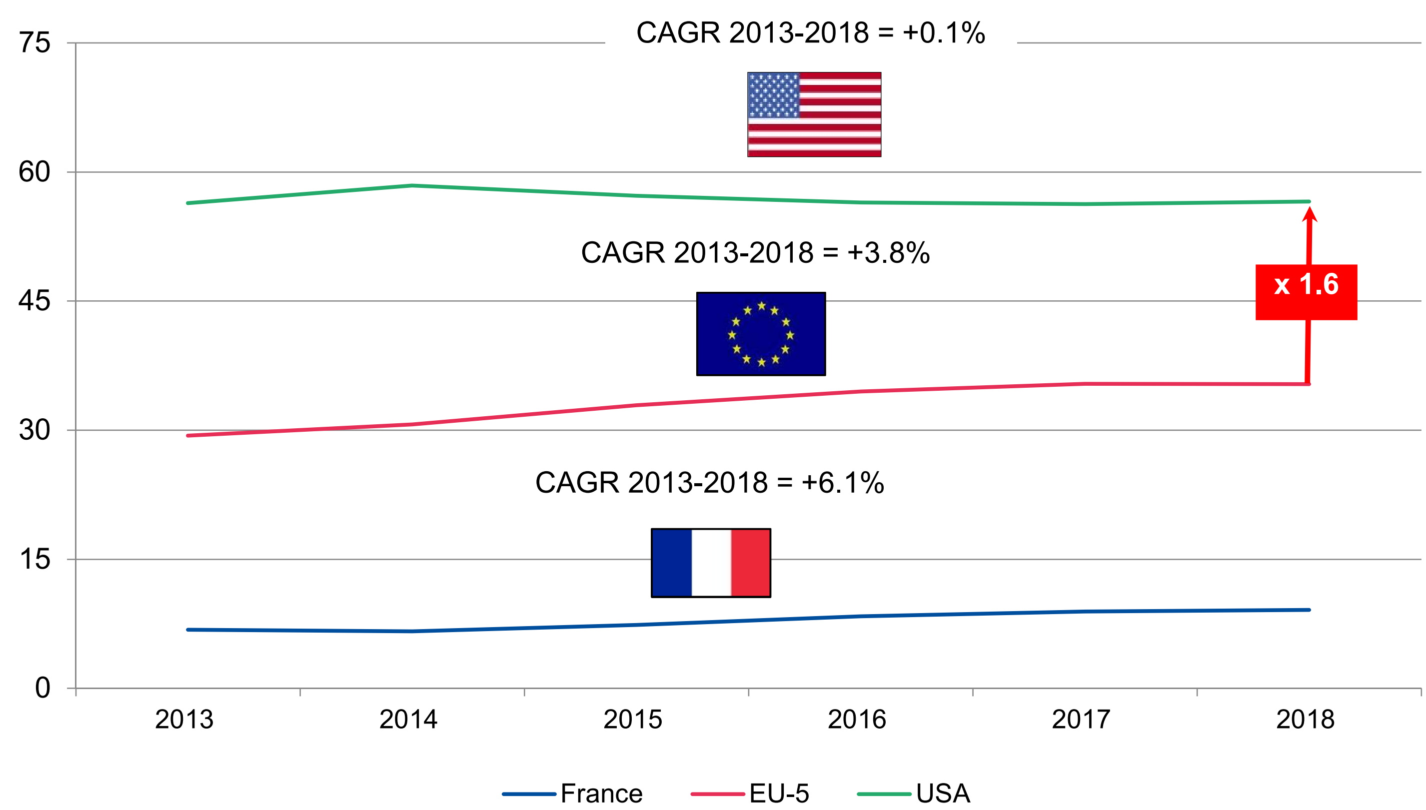
* Retail mobile service revenue/Data mobile traffic


02
CapEx

Total telecom CapEx still far higher in the USA…

> A 1:1.6 ratio in 2018 however lower than in 2014

Telcos' and cablecos' CapEx in fixed and mobile networks (billion EUR)

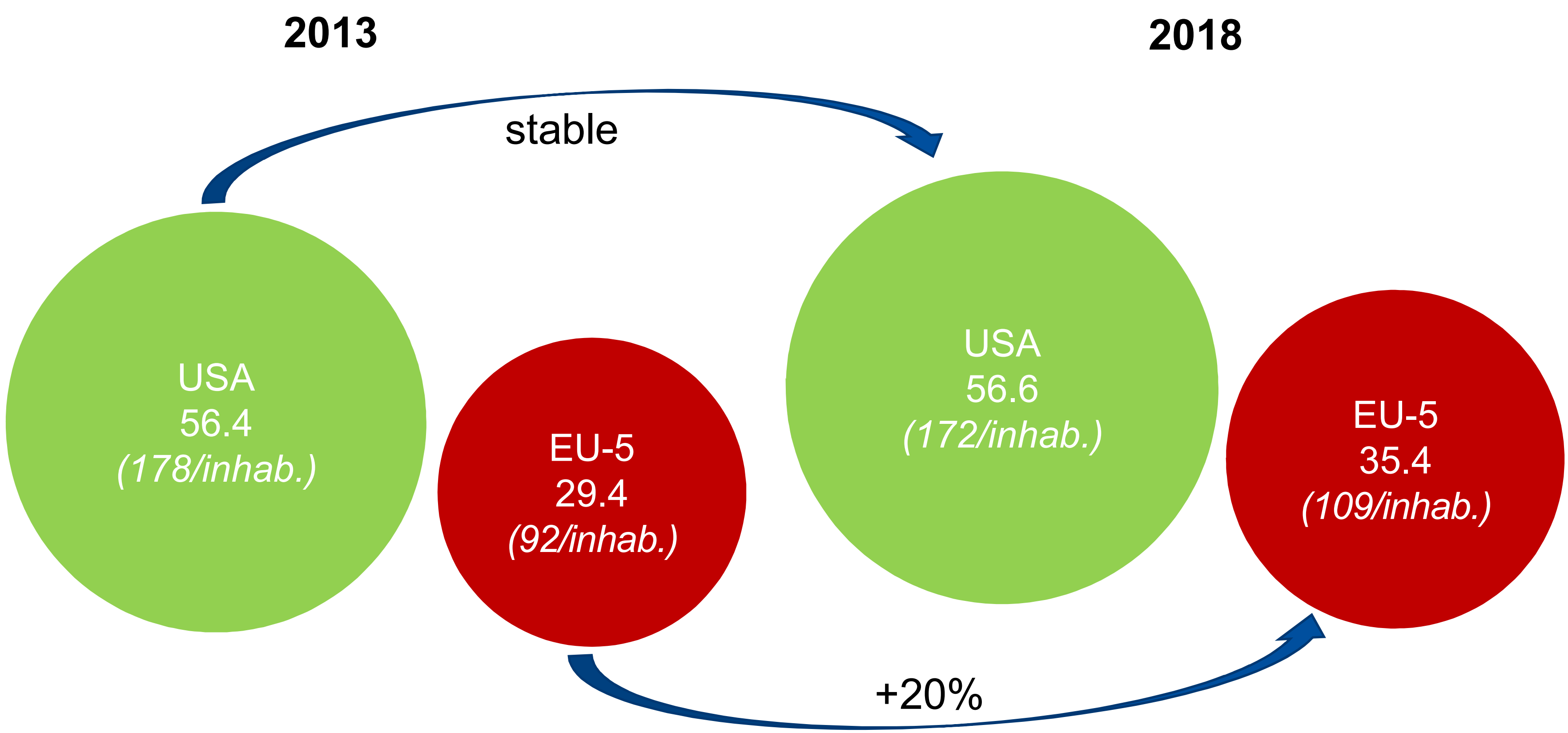


ratio USA vs. EU-5	1.9	1.9	1.7	1.6	1.6	1.6

… despite sustained growth in Europe

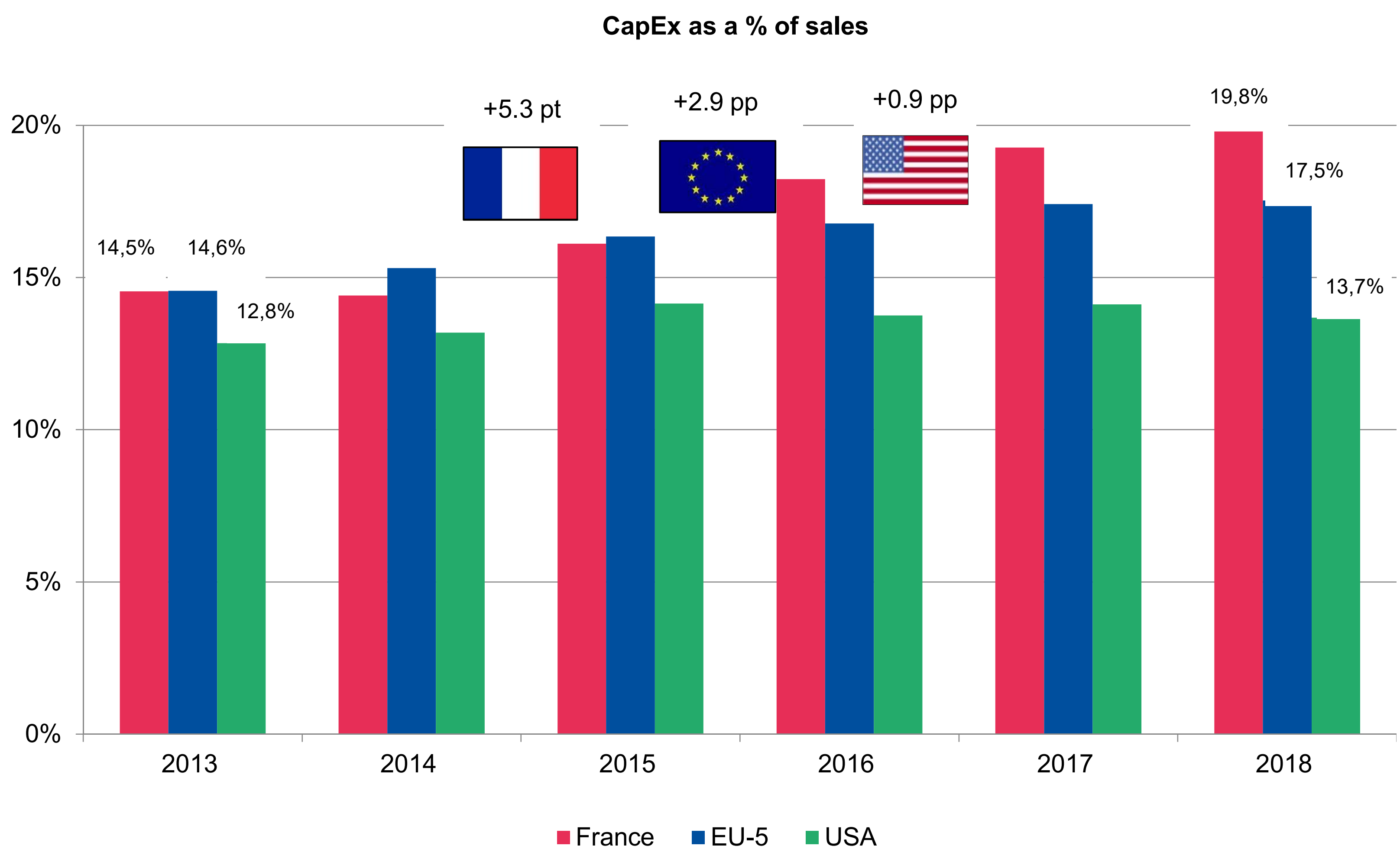
> Growth has accelerated in Europe over recent years (+20% between 2013 and 2018) while dynamics was stopped in the USA
> The gap in CapEx per inhabitant has decreased over time but it remains significant (a 1:1.6 ratio in 2018)

Total CapEx (billion EUR) **and CapEx per capita** (EUR)



Relative weight heavier and heavier for European players

> Gaps have increased over the past 5 years



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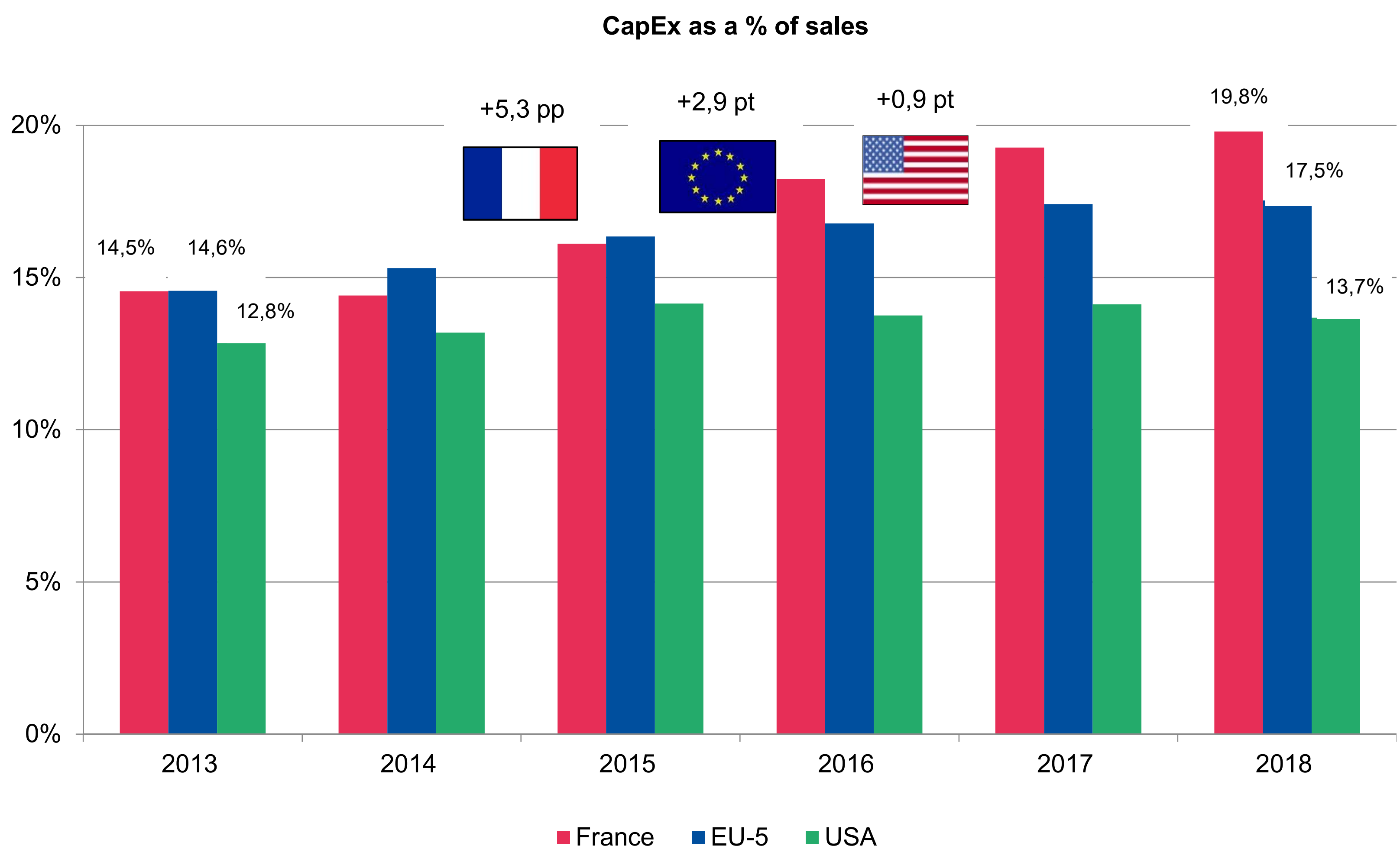
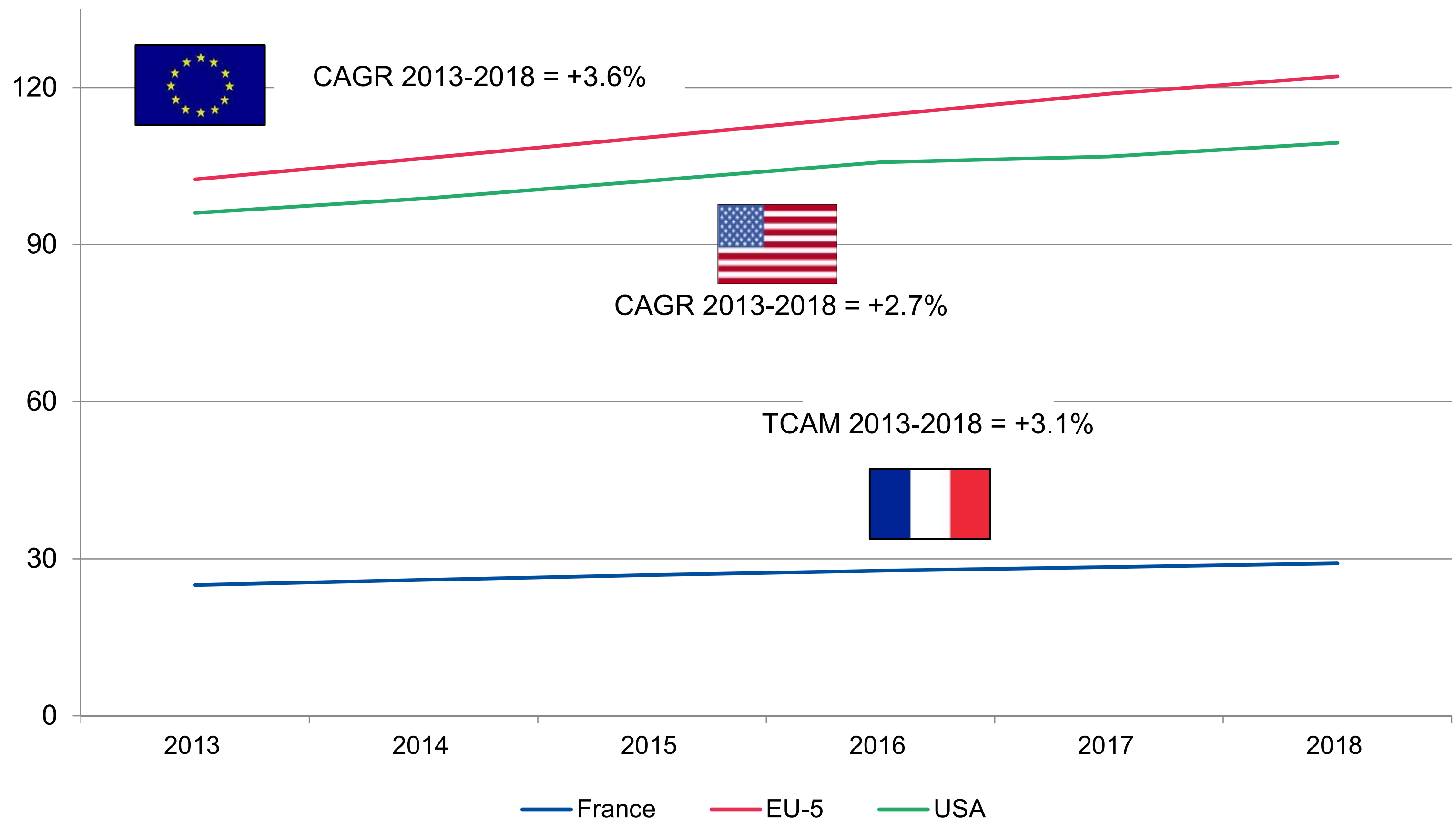


03 | New infrastructure deployment

Penetration rates seem quite similar (1/2)

> But the share of Very High Speed connections* is much higher in the United States:
in fixed access: 84% against 51% on average in EU-5 at the end of 2018…

Fixed broadband subscribers (million connections)

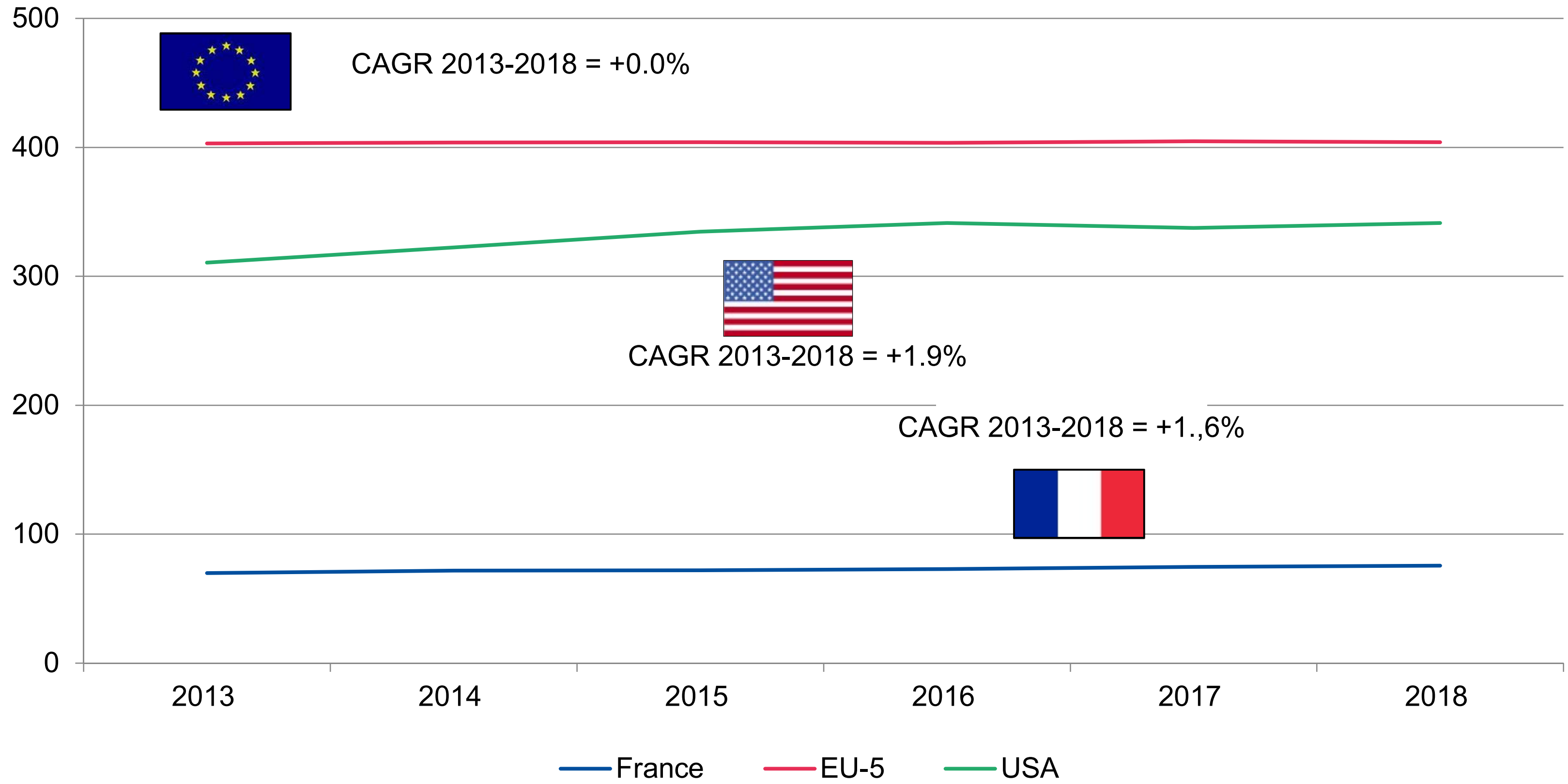


* Share of broadband connections based on VHS access technologies (FTTH + VDSL + Cable/Docsis3)

Penetration rates seem quite similar (2/2)

> But the share of mobile broadband connections* is much higher in the United States:
in mobile access: 83% against 67% on average in EU-5 at the end of 2018

Mobile customers (million SIM cards)



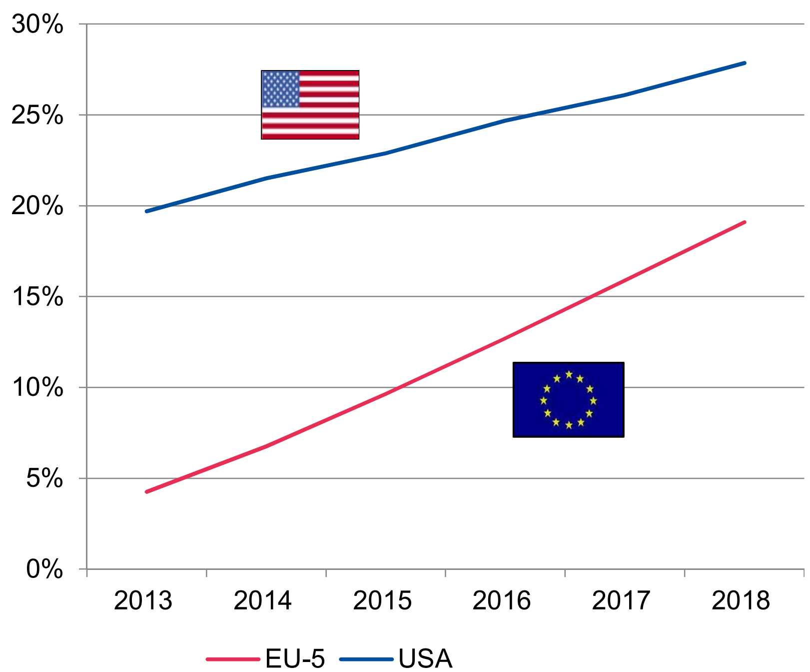
* Share of mobile subscribers active in 4G (excl. M2M)

The higher the speeds, the broader the gaps…

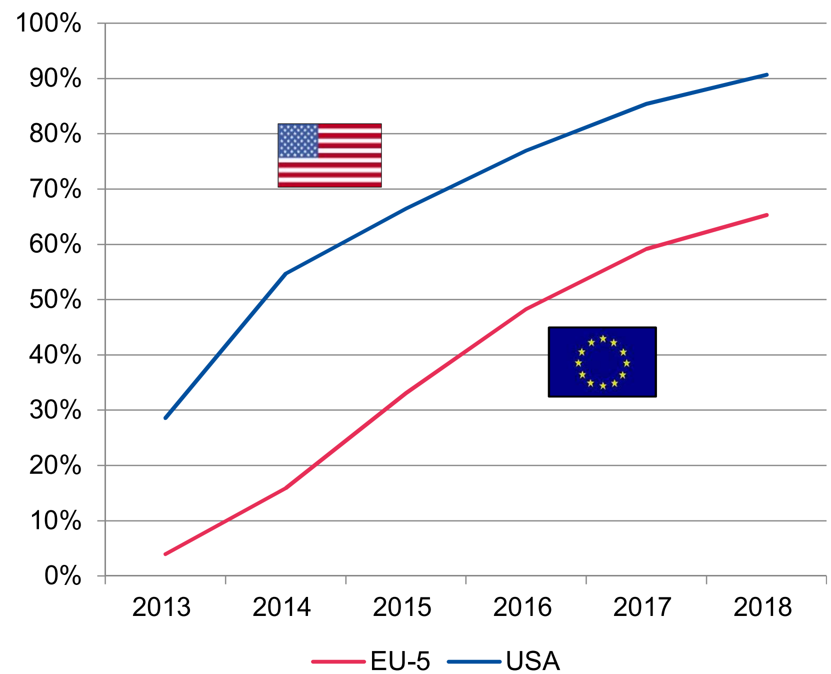
> NGA fixed density* stood at 27.9% in the USA at the end of 2018 while it was only 19.1% in EU-5
> 4G/5G penetration* stood at 90.7% in the USA at the end of 2018 while it was only 65.3% in EU-5

NGA fixed density and 4G density

Fixed NGA connections as a % of population



Active 4G customers (excl. M2M) as a % of population



* Fixed NGA connections or active 4G customers (excl. M2M) per 100 inhabitants