

The evolution of the European Centre for Medium-range Weather Forecasts Data Services



Fabio Venuti, Erik Andersson, Umberto Modigliani, Emma Pidduck, Marta Gutierrez, Helene Blanchonnet, Meghan Plumridge

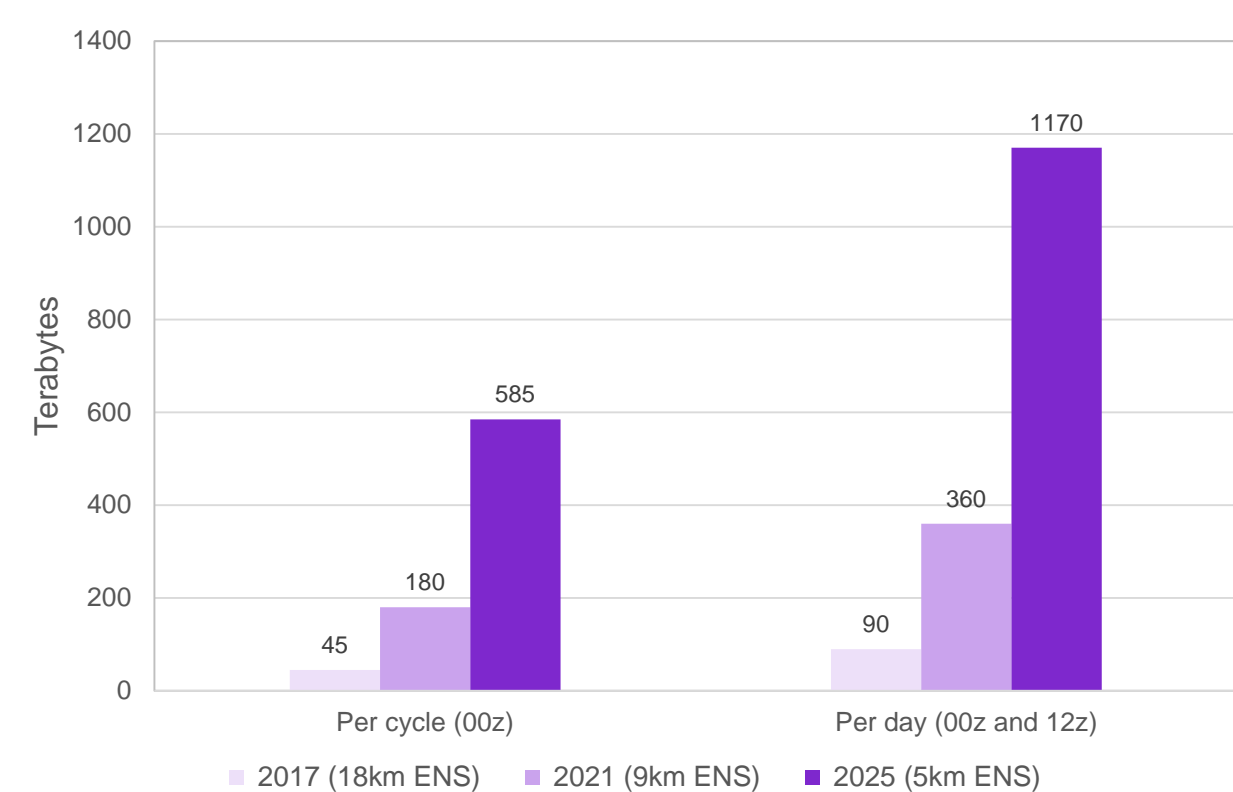
Data.Services@ecmwf.int

ECMWF, Reading, United Kingdom

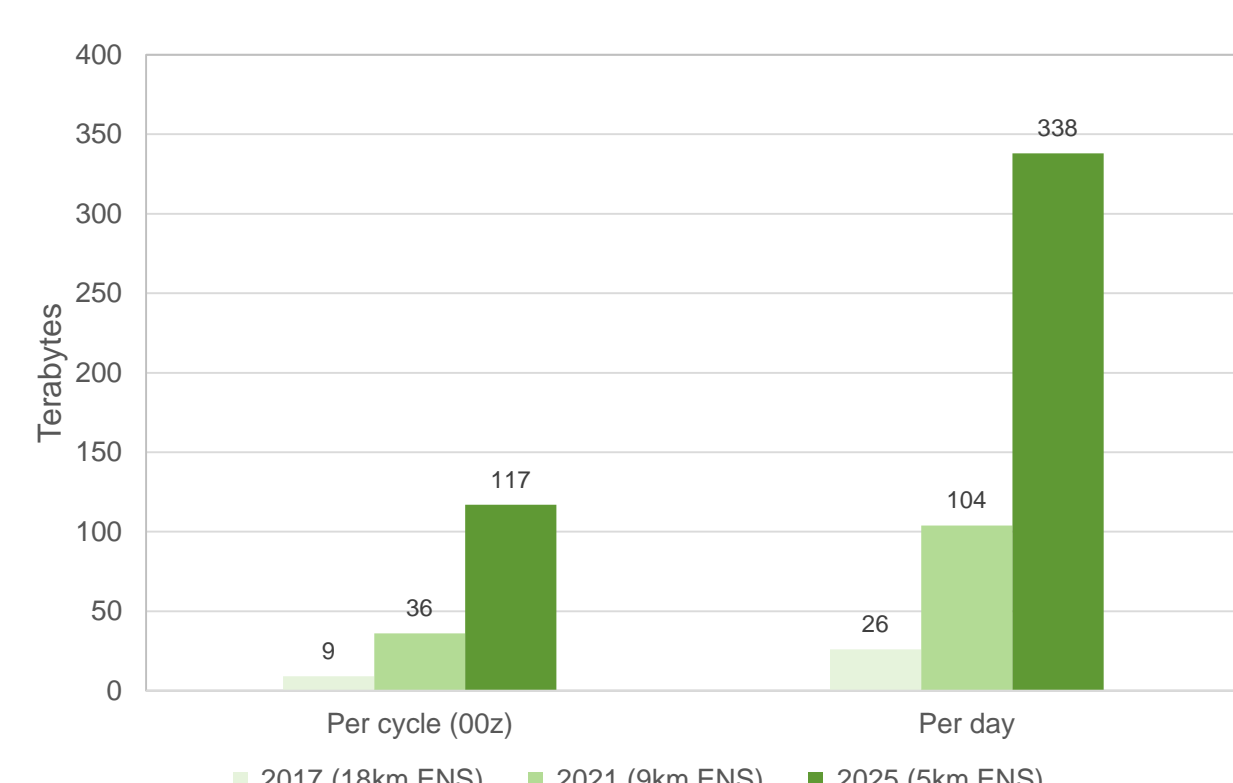
The Big Data challenge

Evolutions of the forecast models produce ever more data

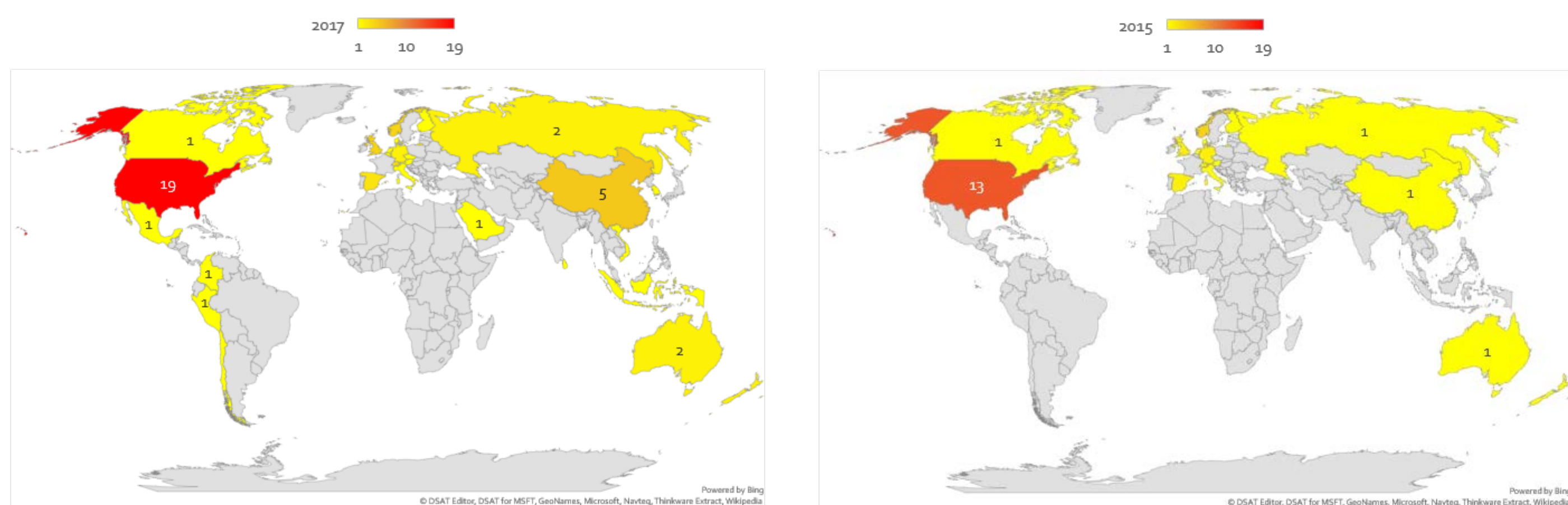
- The real-time data produced will increase by a factor of 12 by 2025. Ensemble (ENS) forecasts, widely used in decision support systems, are the biggest contributors.



- Assuming current demand and delivery mechanism, the data volume distributed will increase by the same factor. Is this sustainable?



- In reality, demand is also expected to increase. The number of full data licences rose by 88% between 2015 and 2017.



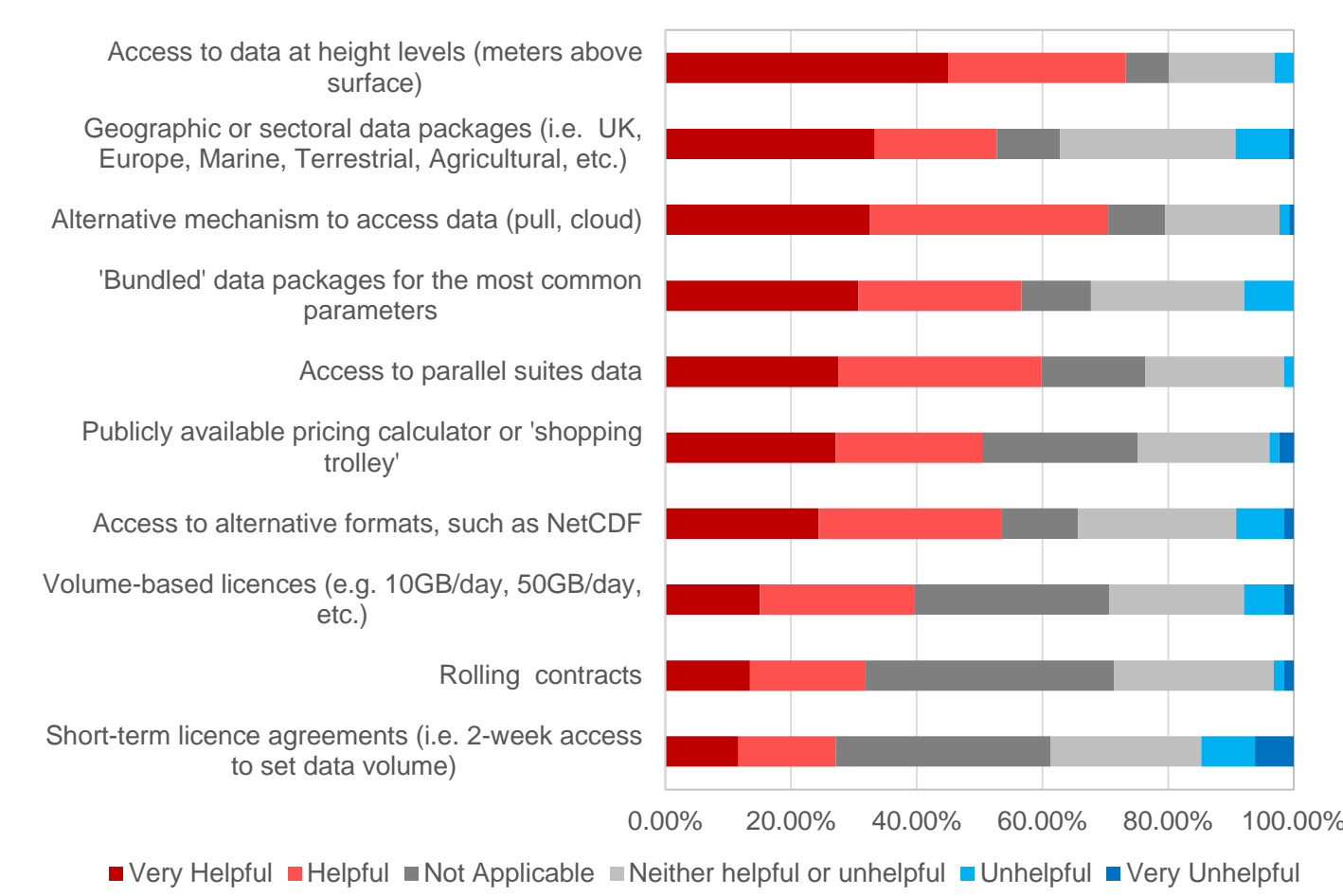
What really matters to our users?

- Access more data in flexible and reliable ways
- Maximize data exploitation
- Limit data costs

What prevents the optimal use of ECMWF data?



What services would you like ECMWF to provide?

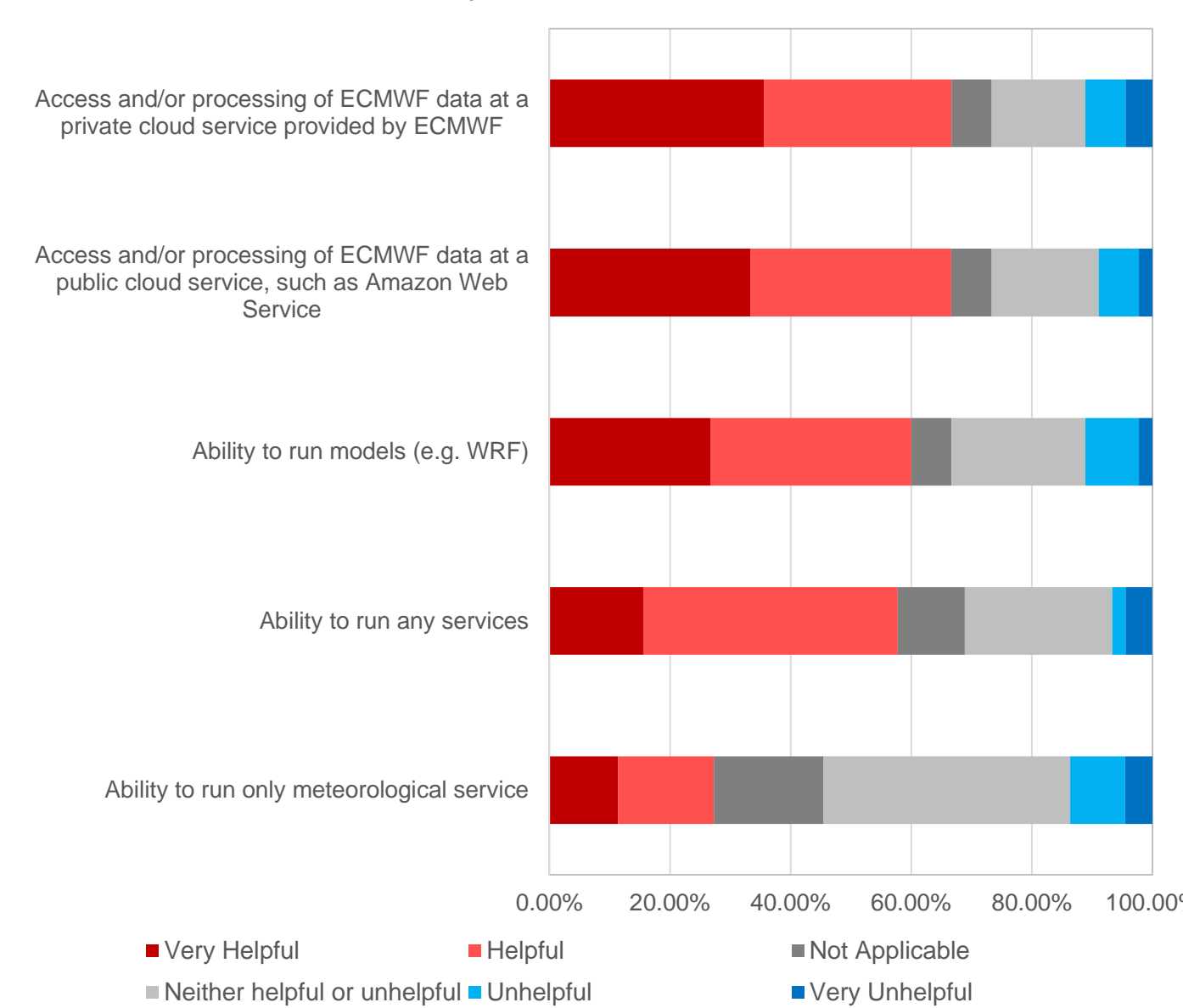


So, we talked about cloud solutions

Clouds are reliable and affordable solutions to deal with Big Data, but what do users want from an ECMWF cloud?

- Running their own application models on the ensemble
- Creating model data processing and distribution facility
- Customer-specific post-processing of forecasts

What would you use an ECMWF cloud for?



How do cloud services fit with our goals?

Build on experience with the Copernicus DIAS (Data and Information Access Services) and NMHSs

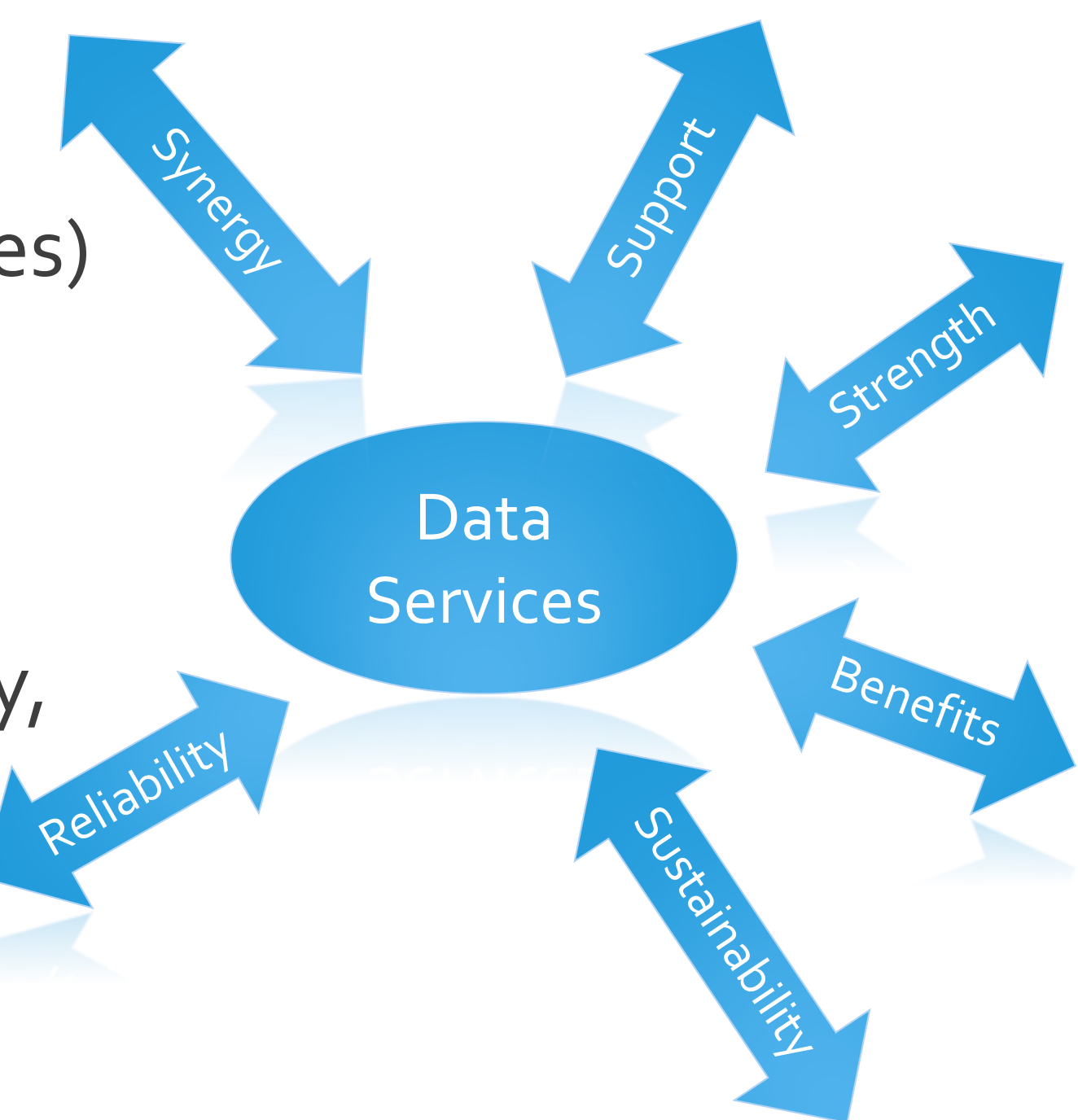
Provide timely, reliable and supported data services

Support the National Meteorological Services public facing role

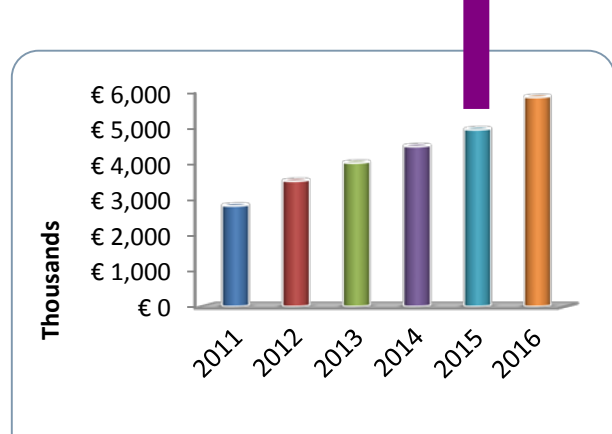
Strengthen the European Meteorological Infrastructure

Policy framework to maximize socio-economic benefits

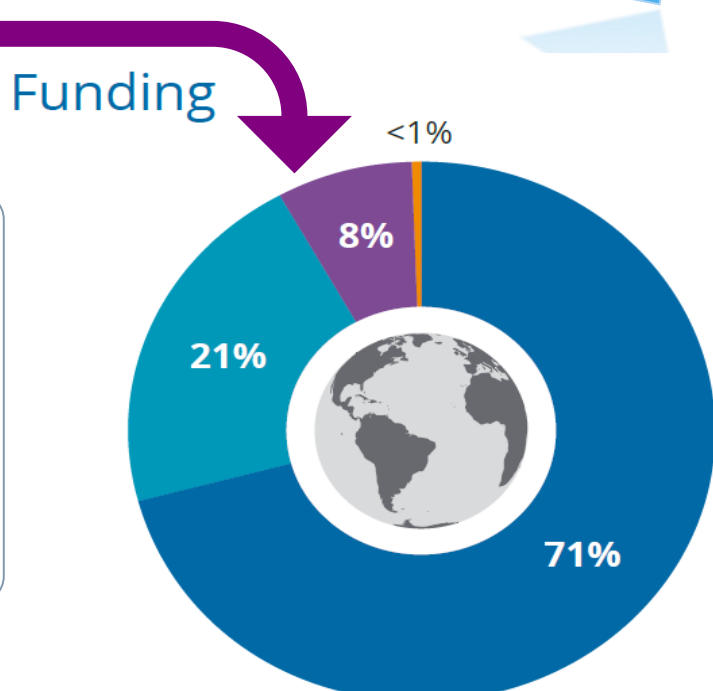
...without forgetting funding sustainability! Devise a simple charging scheme (pay for the service, not for the data)



Sales



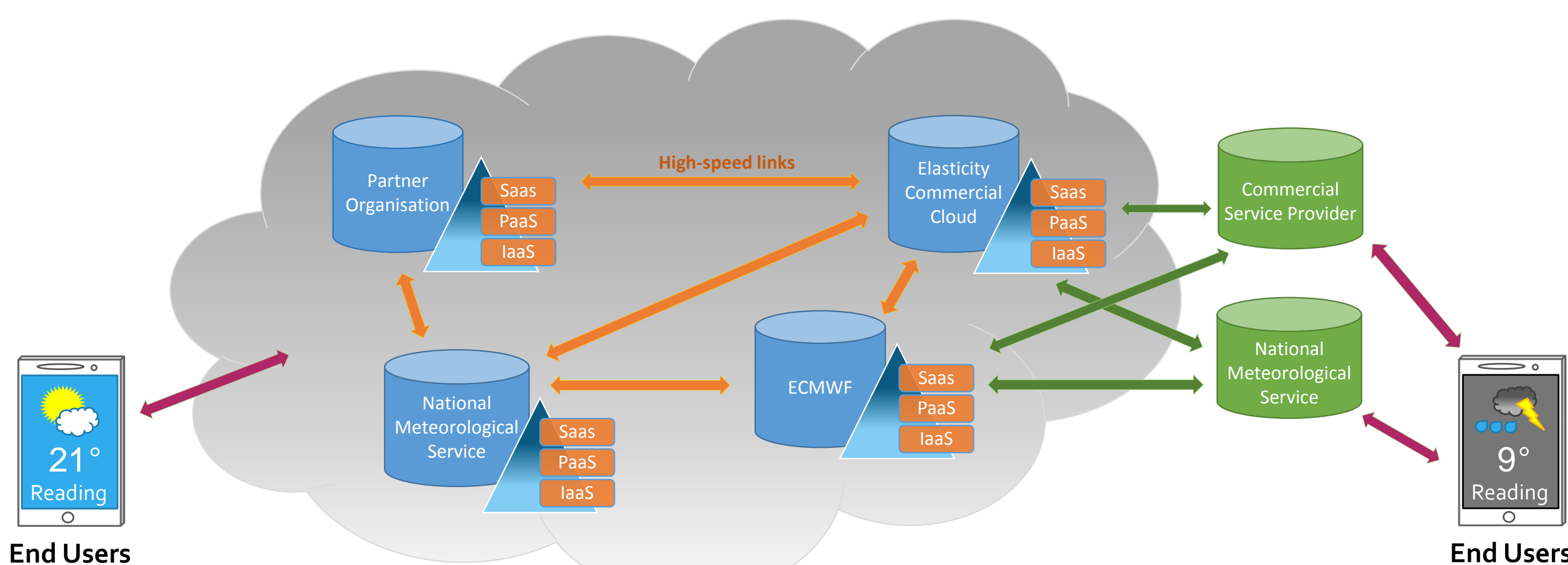
Revenue from information charges



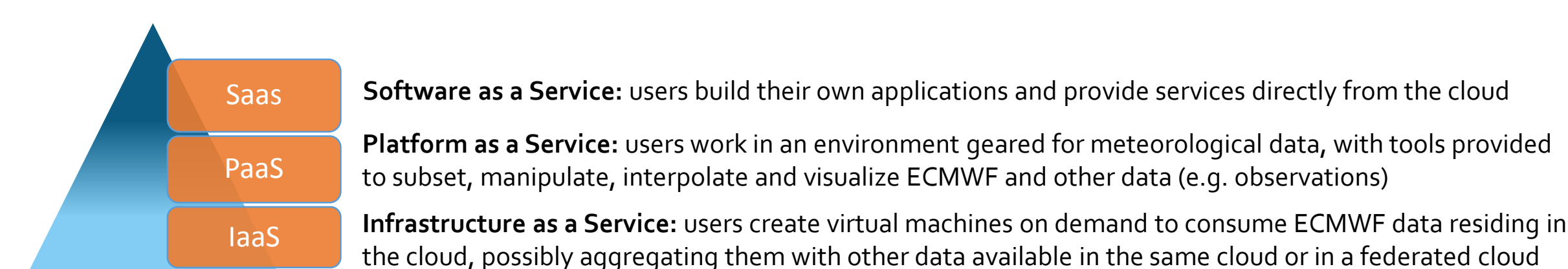
Member & Co-operating States' contributions
Externally funded income
Sales of forecasts and data
Other operating revenue

Aiming at an ecosystem of meteorological data and services

A federation of clouds creates an environment that facilitates data integration from different sources



- ECMWF will run an on-site private cloud providing:



- Working closely with National Meteorological Services
- Attracting private companies and partner organisations
- Stimulating the creation of applications, public services and decision support services based on different data sources