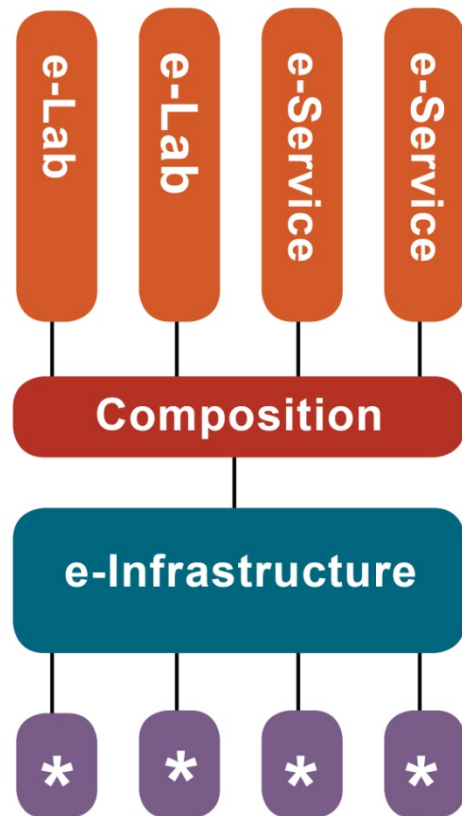


LifeWatch, costing and funding

The LifeWatch e-infrastructure
financial construction



LIFEWATCH architecture providing infrastructure services to users

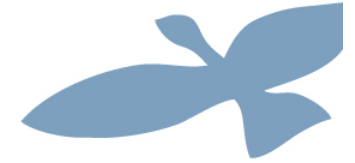


*Resource

User groups can create their own e-laboratories or e-services within a common architecture of the infrastructure

The e-laboratories are the '*community driven*' infrastructure, which promotes innovation.

Sharing data and algorithms, scientists can address questions not otherwise accessible



LifeWatch as a distributed research infrastructure

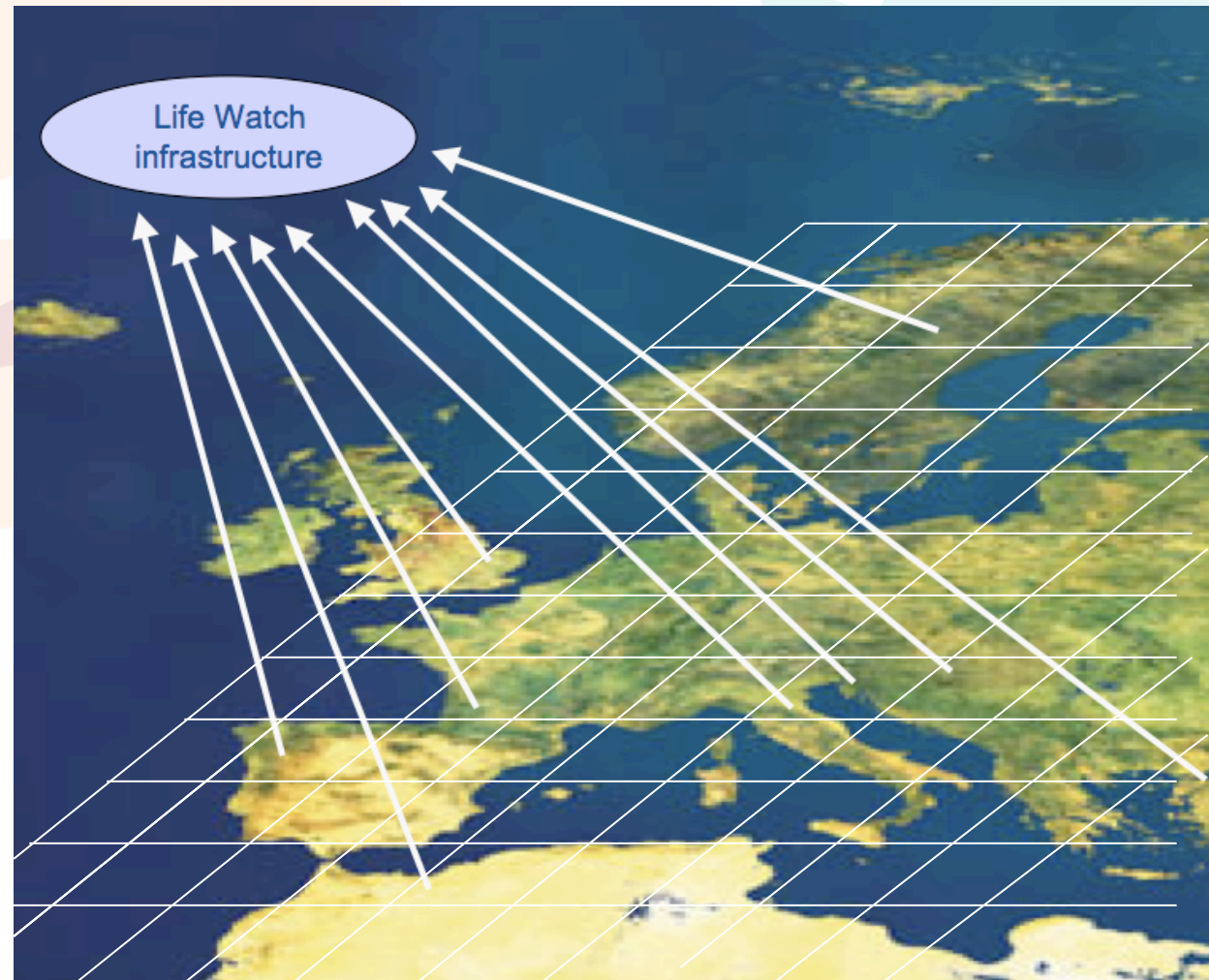
Data grid

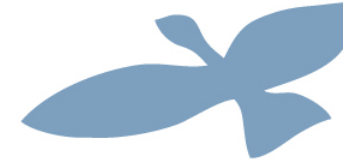
monitoring sites
sensors
collections

Soft/Middleware grid

Computing grid

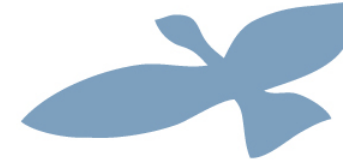
Part of an
**international
infrastructure grid**





LifeWatch vs. a single sited R.I.

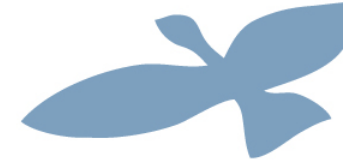
- No large capital investments
- Not in one place, mainly virtual
- Can operate on partial construction
- Number of users is 'infinite'
- Decommissioning not a major issue
- Make use of existing e-infrastructure (EGI, PRACE, GEANT)



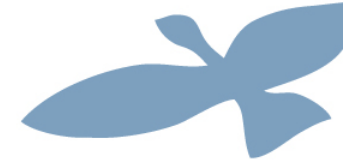
Costs - Considerations

- Development of software etc. as main task
- Mainly personnel costs
- Like software, operate with releases. software requires maintenance, updates and upgrades
- Operations already start with partial construction
- Number of users is 'infinite'
- Decommissioning is minor



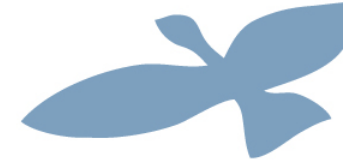


Cost categories	14 construction projects	73 construction components	203 construction items
Capital costs			
Major third party costs	<p style="color: red; text-align: center;">Each described and associated costs calculated.</p>		
Running costs			
Specialist staff costs	<p style="color: red; text-align: center;">In total € 220 mln.</p>		
Service staff costs			
Other costs			
Depreciation costs			



Capital costs	Equipment, floor space (m2)
Major third party costs	Data, Computation, Algorithms
Specialist staff	€ 200.000 per f.t.e. Full Cost (for staff and associated secr/adm and m2)
Service staff	€ 100.000 per f.t.e. Full Cost (for staff and associated secr/adm and m2)
Running costs	Travel, materials, etc
Other costs	Any other costs not fitting in the other categories
Depreciation costs	Mostly for relocating staff and services



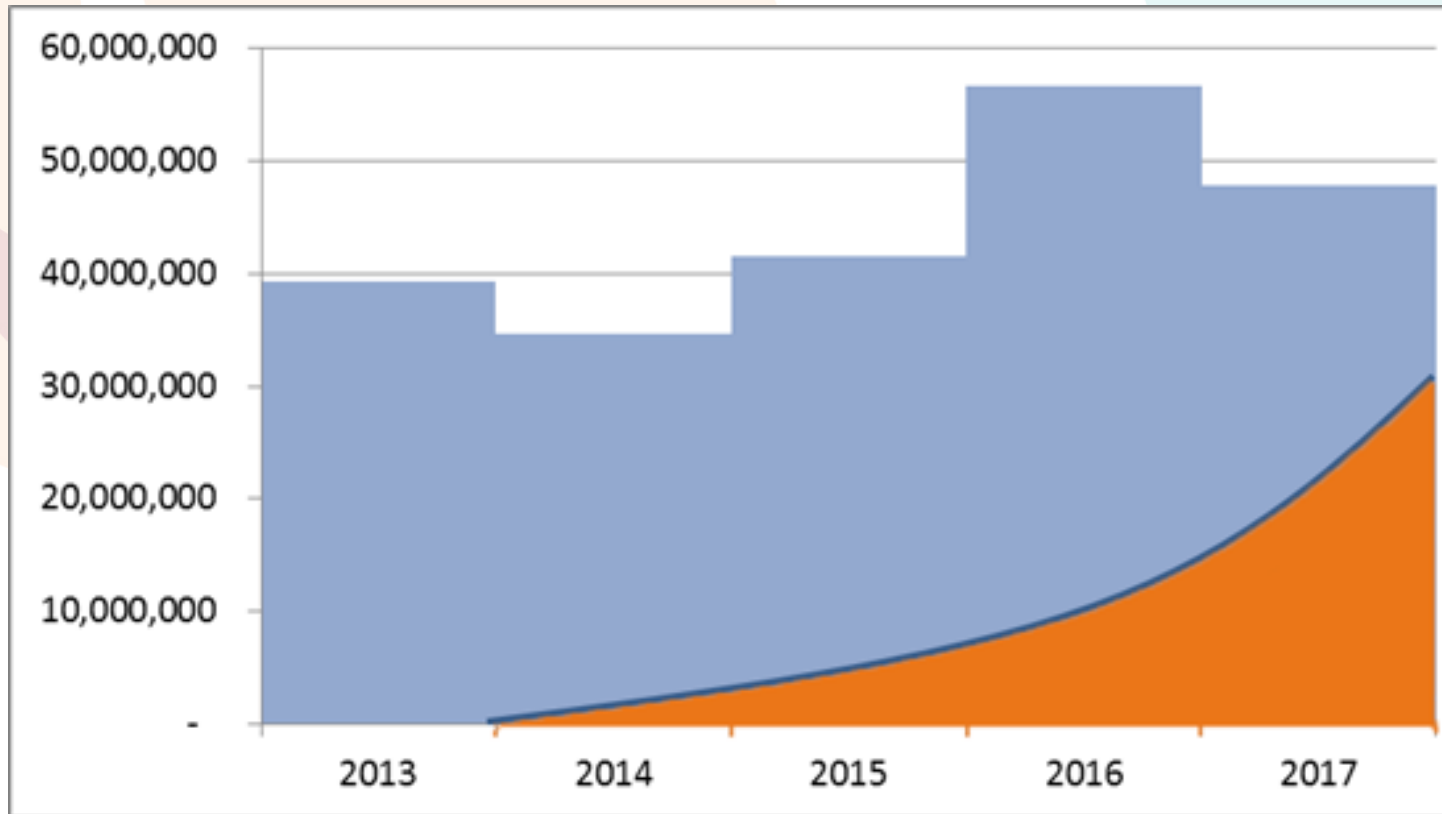


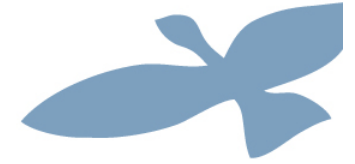
Operational costs

- Software based, so developments move fast
- High level of uncertainty about future beyond 5 years
- 'Rule of Thumb': operational costs are about 15% of total construction
- Critical mass and economies of scale to be taken into consideration!

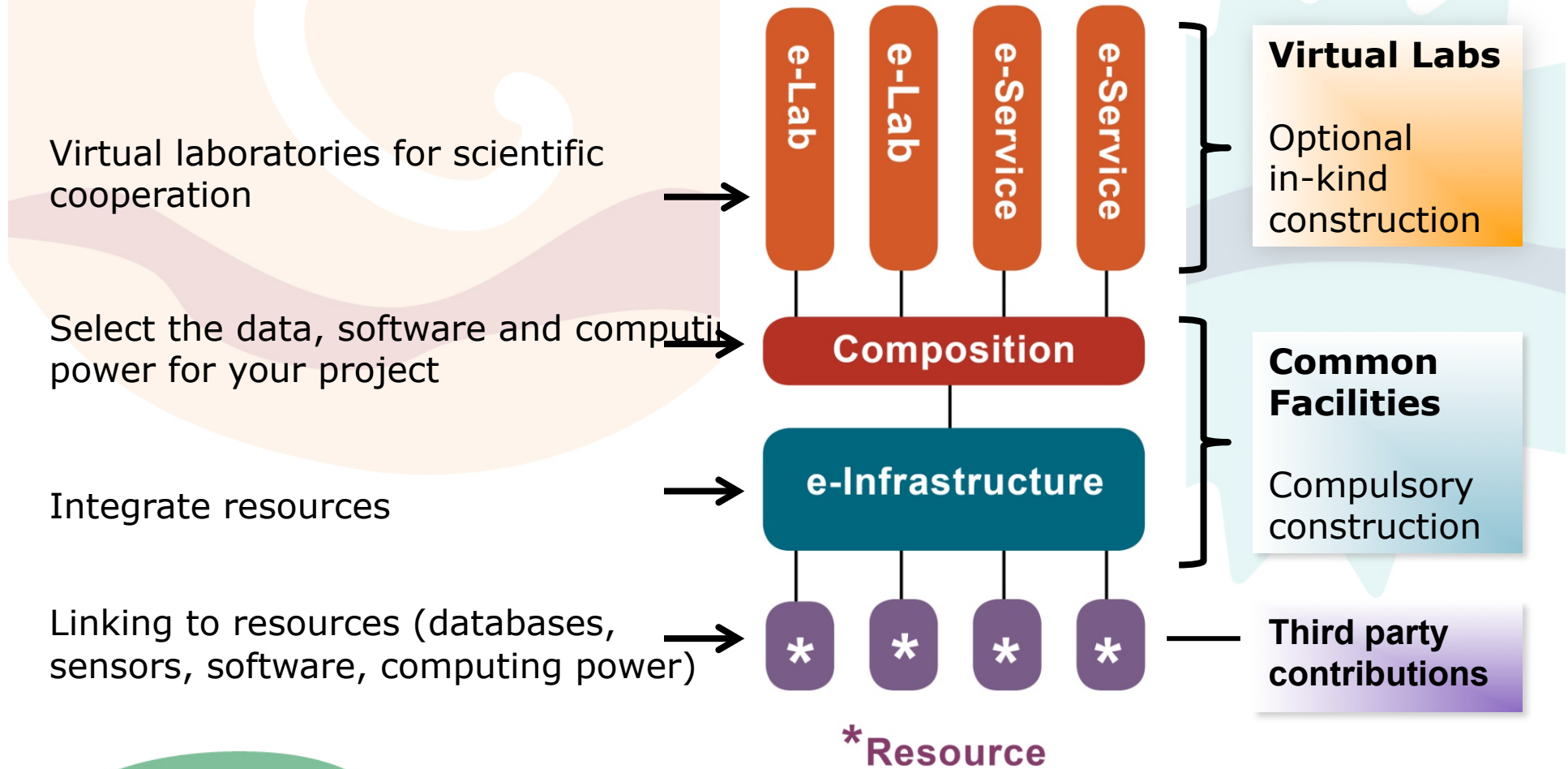


Spending pattern





LifeWatch architecture



LifeWatch Funding

Considerations on the funding of the RI:

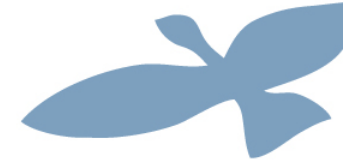
- ESFRI process requires us to convince individual countries to invest
- Completely new concept, difficult to understand for countries
- Virtual, distributed, so lots of investment possible accross Europe, and not in one place
- No need for the full amount of construction costs to start operating

Funding mechanism

- Countries contribute 15% of their funding in cash to the central operations of the ERIC
- Countries invest 85% of their contribution as in-kind investments/projects in their own countries
- the 85% in-kind has to match the identified construction items in the cost-book (which add up to 220 M€)

Advantages of this mechanism

- A relatively small percentage of the contribution is 'leaving the country'
- Countries have a big influence on prioritizing the needs of their scientific community (through the 85% national projects)
- The ERIC can coordinate the construction through Service Level Agreements with the countries



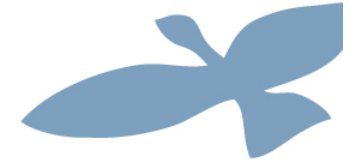
Determining Country contributions

- Based on GDP of all 27 EU countries
- Considering that only if all EU countries contribute, the 220 M€ is needed
- Minimal threshold of 2.5 M€ per country (for less one cannot really do relevant work)
- Little discount for the 5 largest countries in Europe, to facilitate their entrance

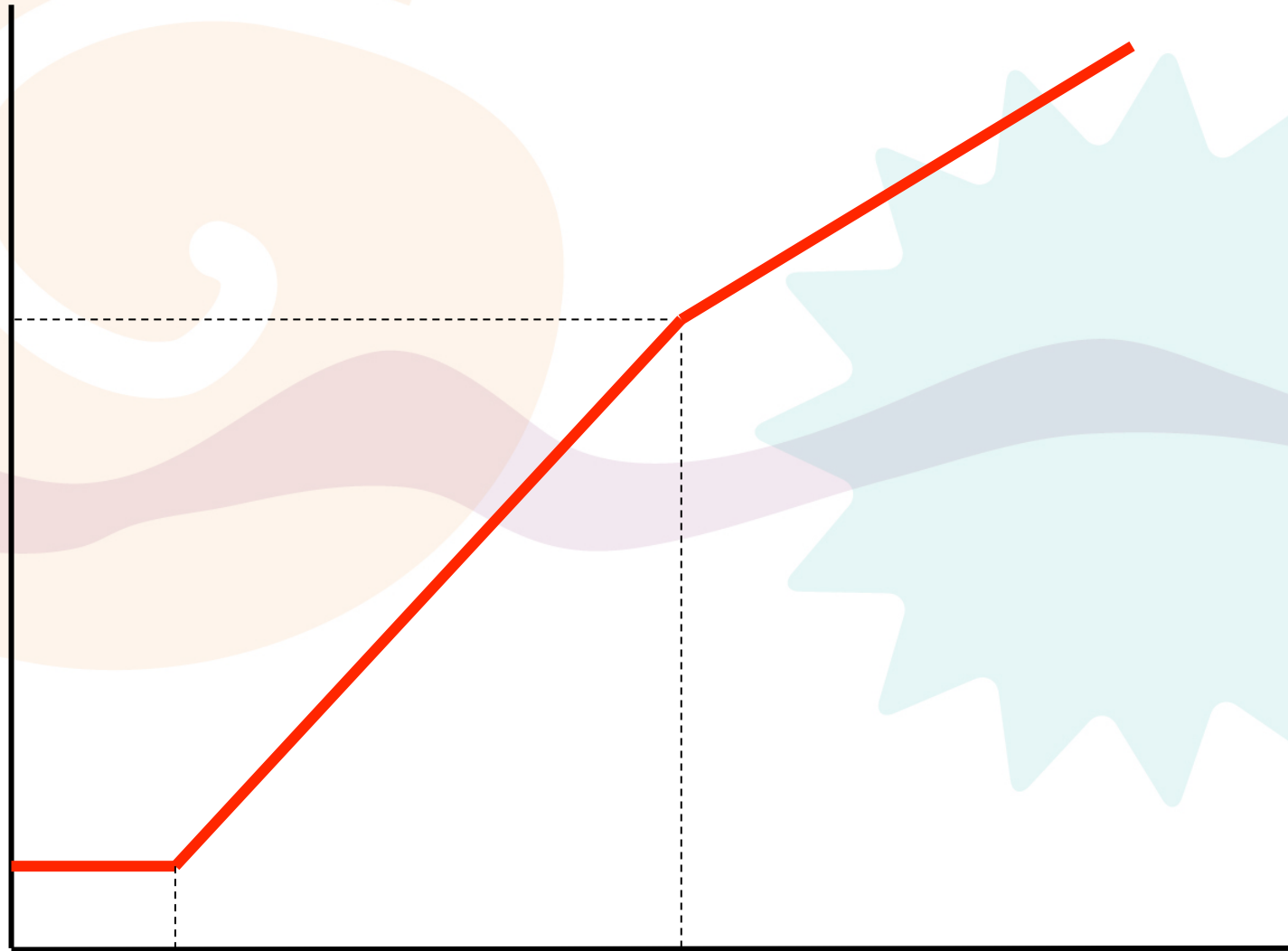




National contributions



Size of national contribution
(in cash + in kind)



National GDP
of the country



Valuation of in-kind contributions: Message for further exploration

