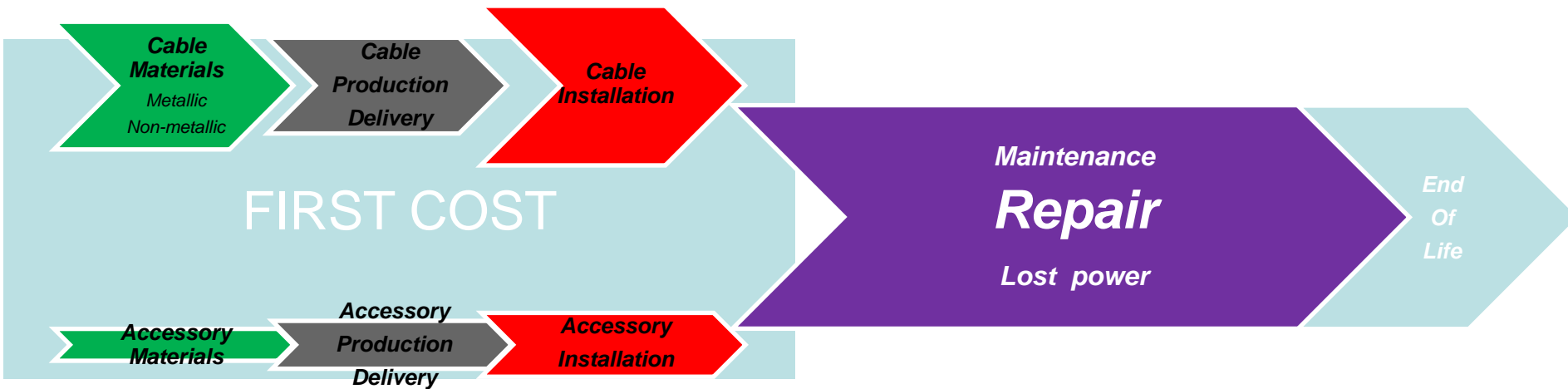


Service Performance and Total Cable System Cost

Nigel Hampton

Lifetime cost chain – cable system



The “Total Cost” of Ownership

- Is important
- Difficult to estimate

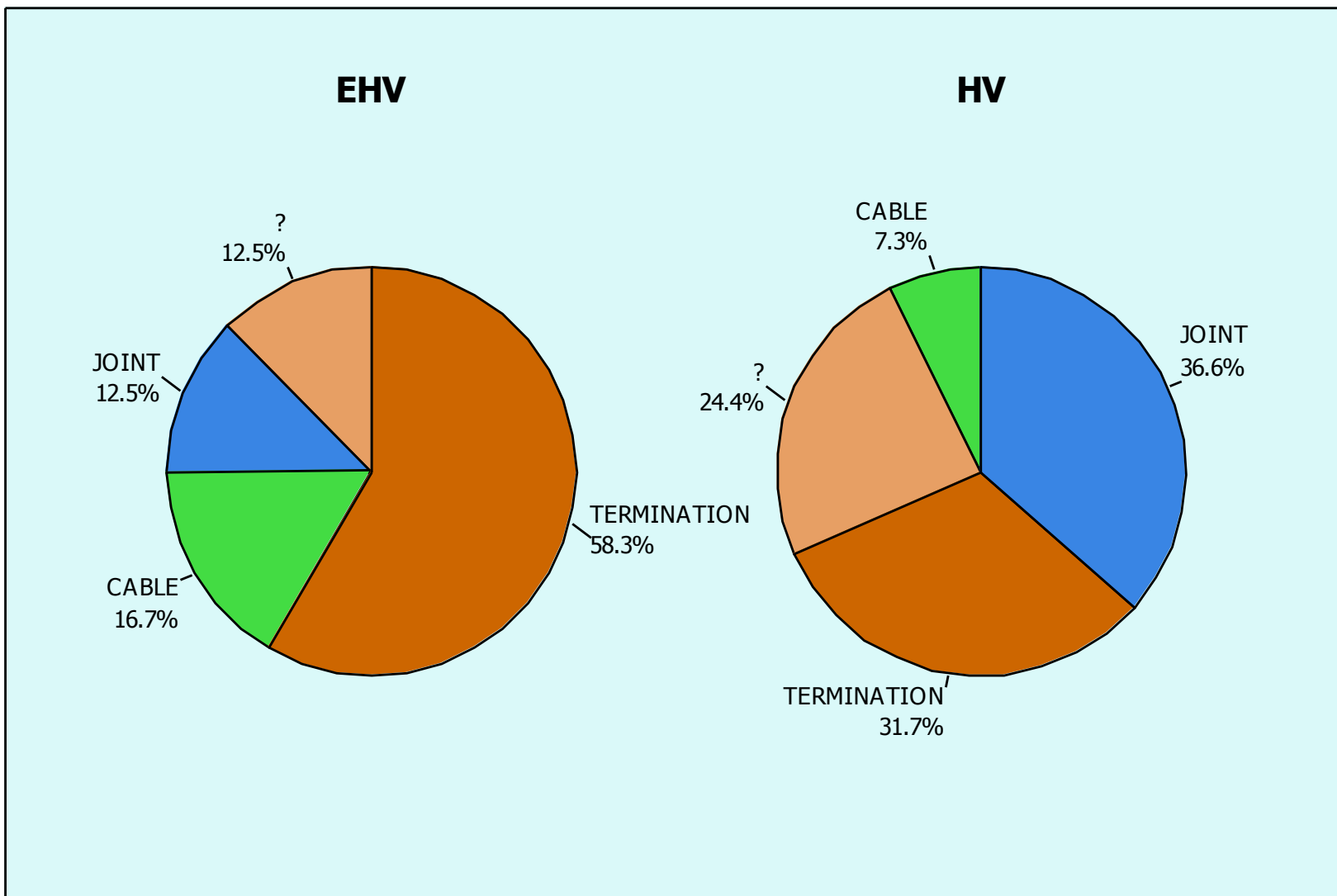
We can do a good job on “First Costs”

We would like to know more about “Operational Costs”

Approach

- Focus on extruded cable systems installed since 2000
 - Components failing in service, excluding third party damage
 - Consider HV (69 – 150 kV) & EHV (230 – 400 kV)
 - Obtain disbursement of component failures
 - Estimate most likely failure rate and most likely range
-
-

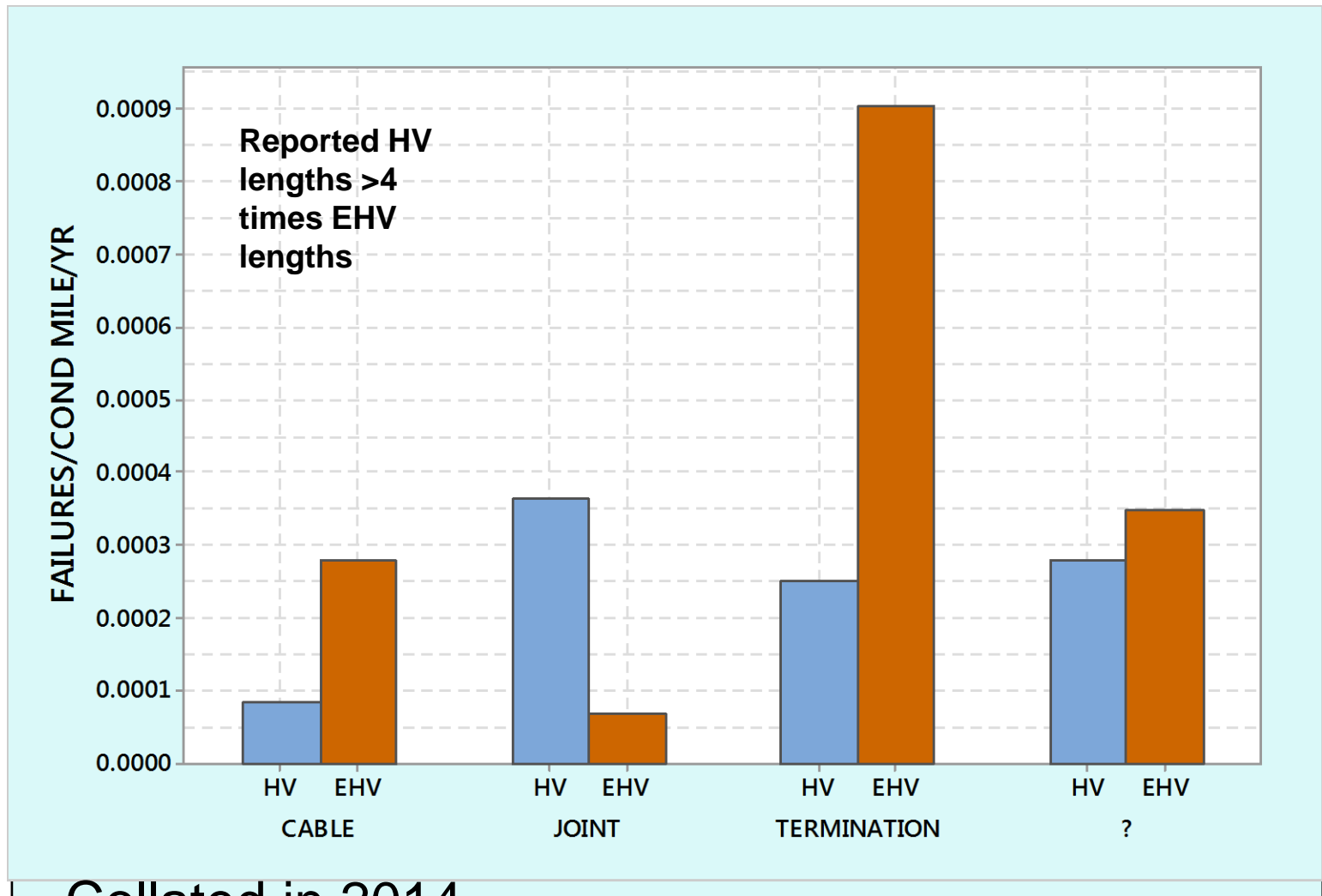
What has Failed?



Collated in 2014



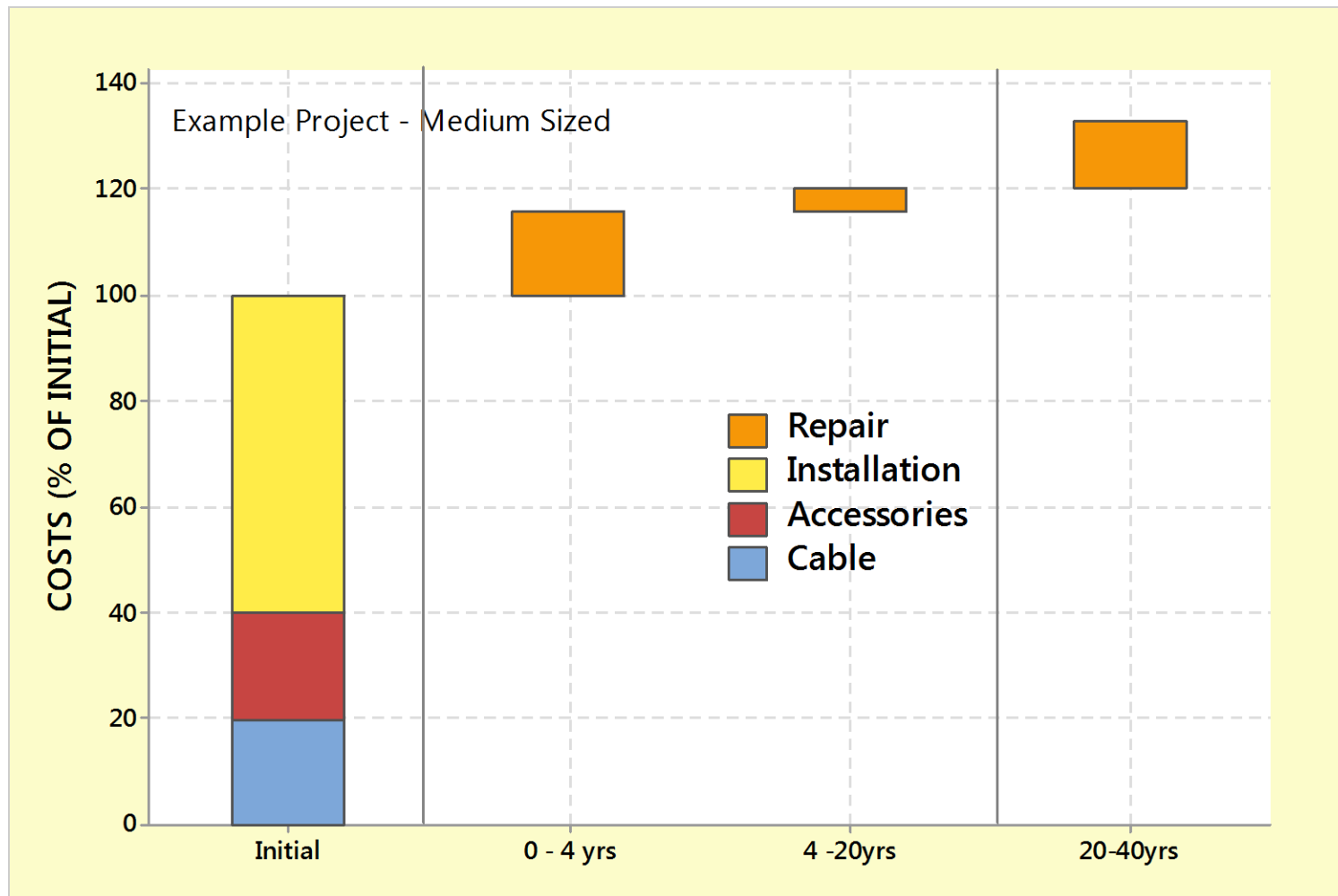
Estimates of Component Rates



Collated in 2014



Lifetime costs with Service Data



Conclusions

- Total Costs matter
- Service Data are required to make reasonable estimates of the Operational Costs
- There is no “one figure” for
 - Failure rates
 - Initial Costs – project dependent
 - Operational Costs – project & repair method dependent
- Next step is Scenario Modeling to understand the reasonable ranges