Grey in the Innovation Process

Keith G Jeffery
Director, IT &
International Strategy, STFC

keith.jeffery@stfc.ac.uk

Anne G S Asserson
University Library
University of Bergen

anne.asserson@fa.uib.no

Authors

Keith G Jeffery
STFC-RAL

Anne Asserson
UiB

Structure

- Innovation
- Background
- The Hypothesis
- Proposed Architecture
- Conclusion

Innovation

Innovation is the development of new customers value through solutions that meet new needs, inarticulate needs, or old customer and market needs in new ways.

(Wikepedia)

➔

IDENTIFY NEW NEEDS

DEVELOP NEW WAYS

Background

- Need to justify research funding:
  - Wealth creation
  - Improvement in quality of life
- Through Innovation

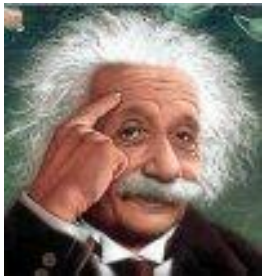
- Industry R&D
  - Supported by government
- Government R&D
  - Supported by industry

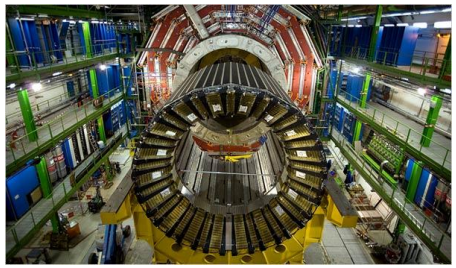
- Research spend
  - Gross R&D spend
- Research intensity
  - R&D spend as % of GDP

The Hypothesis: Understanding innovation requires:

- Measures
  - Outputs
  - Outcomes
  - Impacts
- Contextual relationships
  - Funding
  - Institution
  - Project
  - Person
  - Facility / Equipment
- Temporal relationships
  - Provenance
- Geospatial relationships

➔ Causality



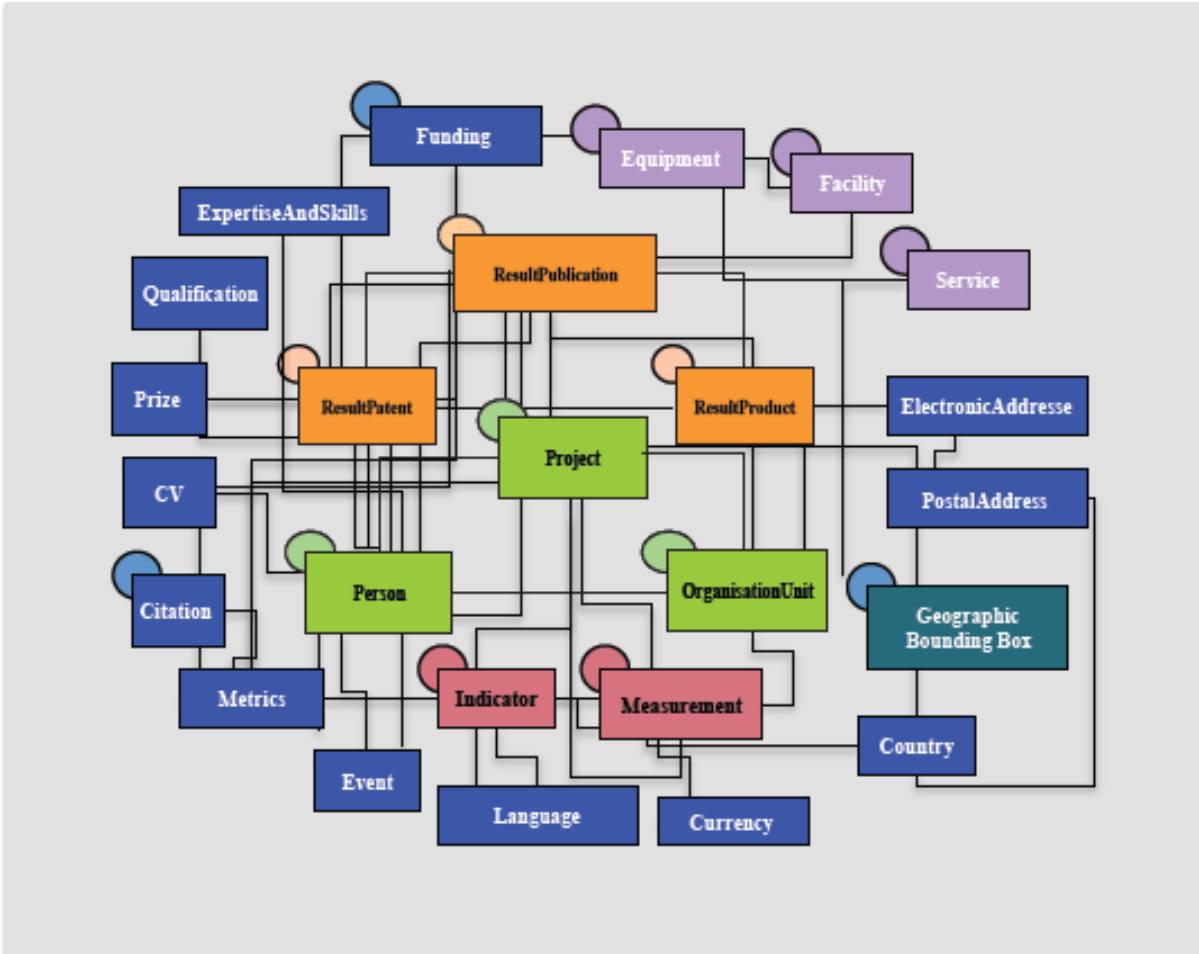


The Hypothesis: GREY is part of this

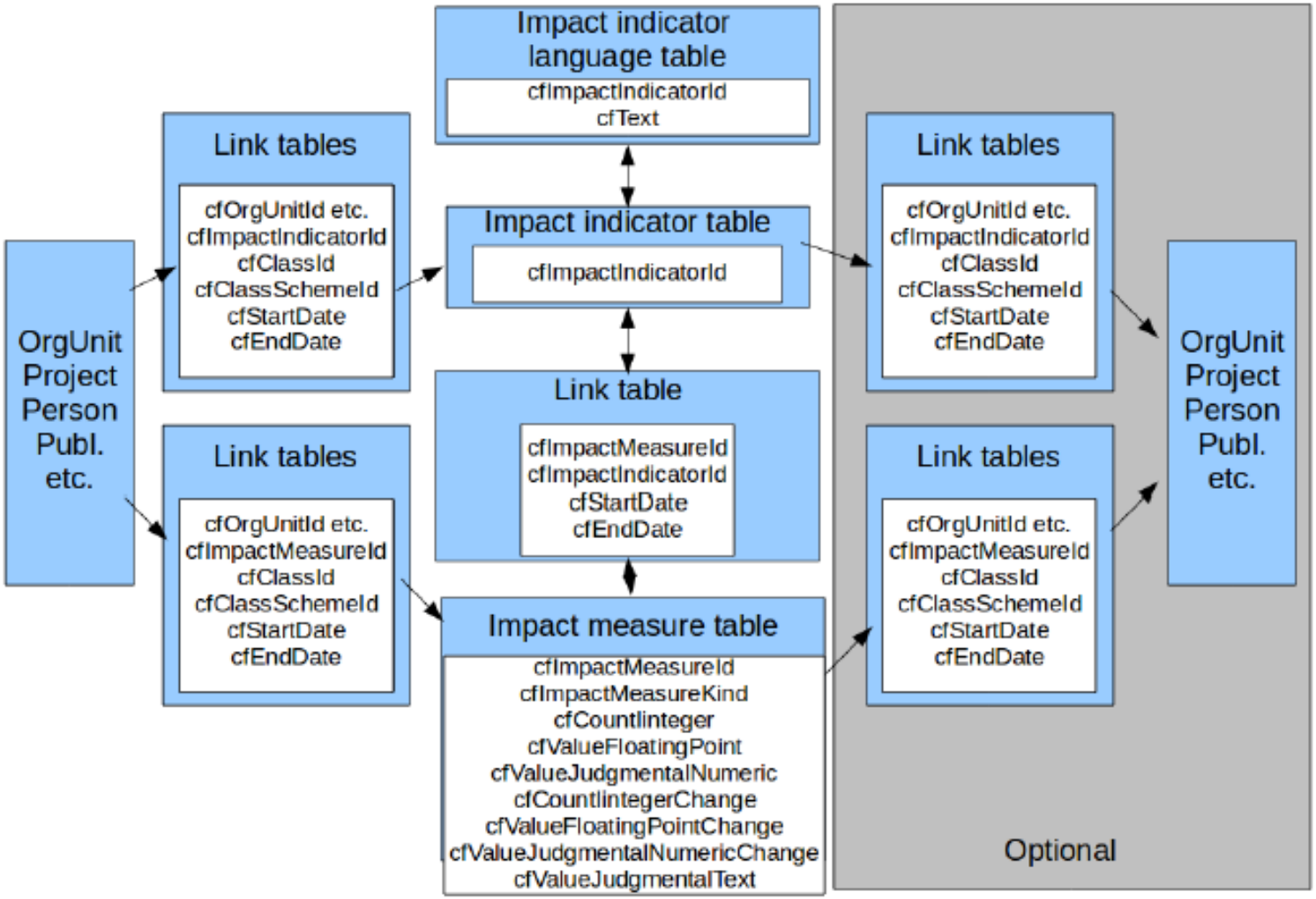
- Documented original idea
  - Lab notebook
  - Internal report
- Document process of development
  - Lab notebook
  - Internal report
  - Workshop presentation
- Management control of IP

Proposed Architecture: CERIF

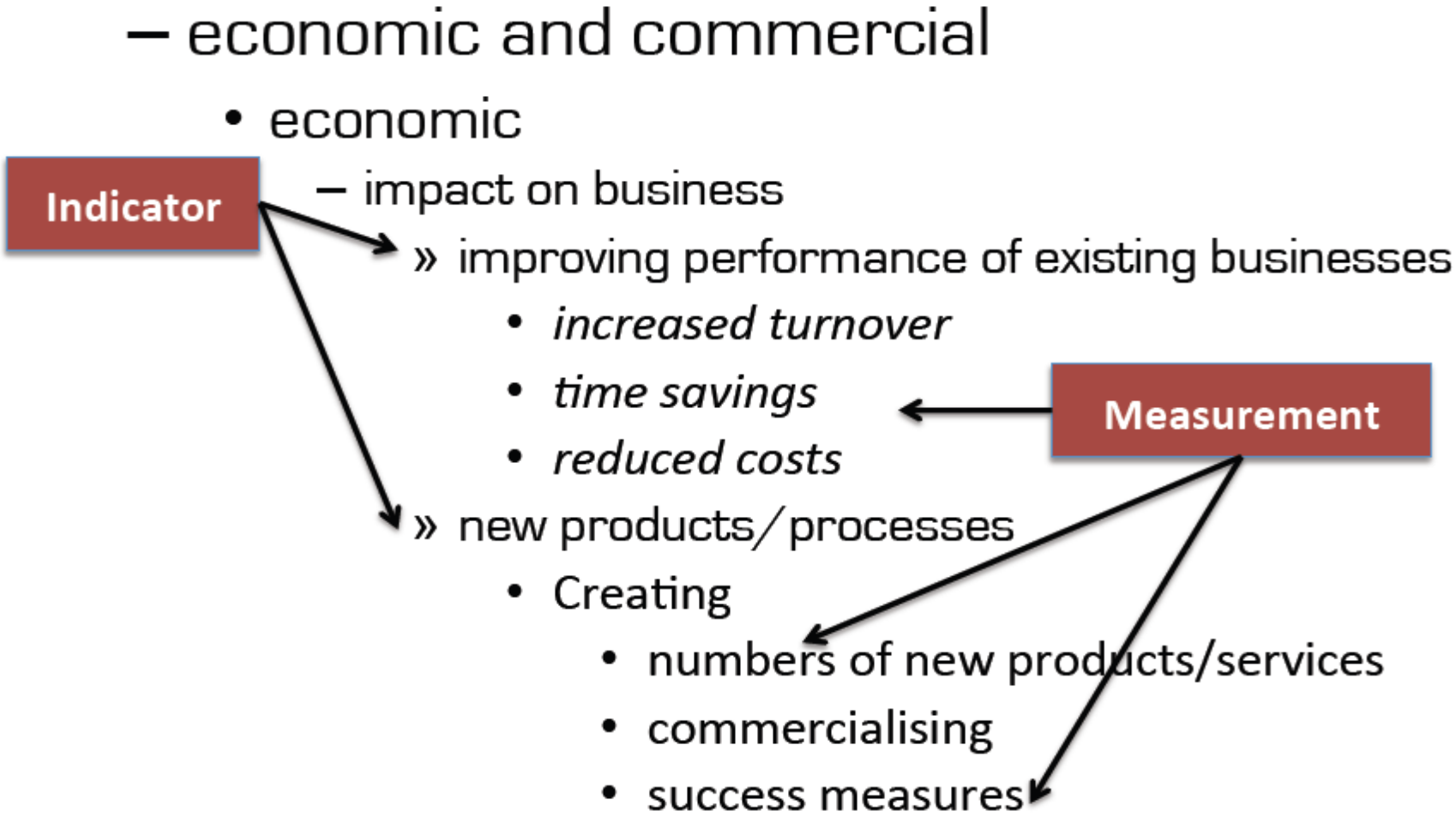
- Describe
  - Outputs
  - Outcomes
  - Impacts
- Record
  - Contextual relationships
  - Temporal relationships
  - Geospatial Relationships
- Deduce or Induce
  - Causality



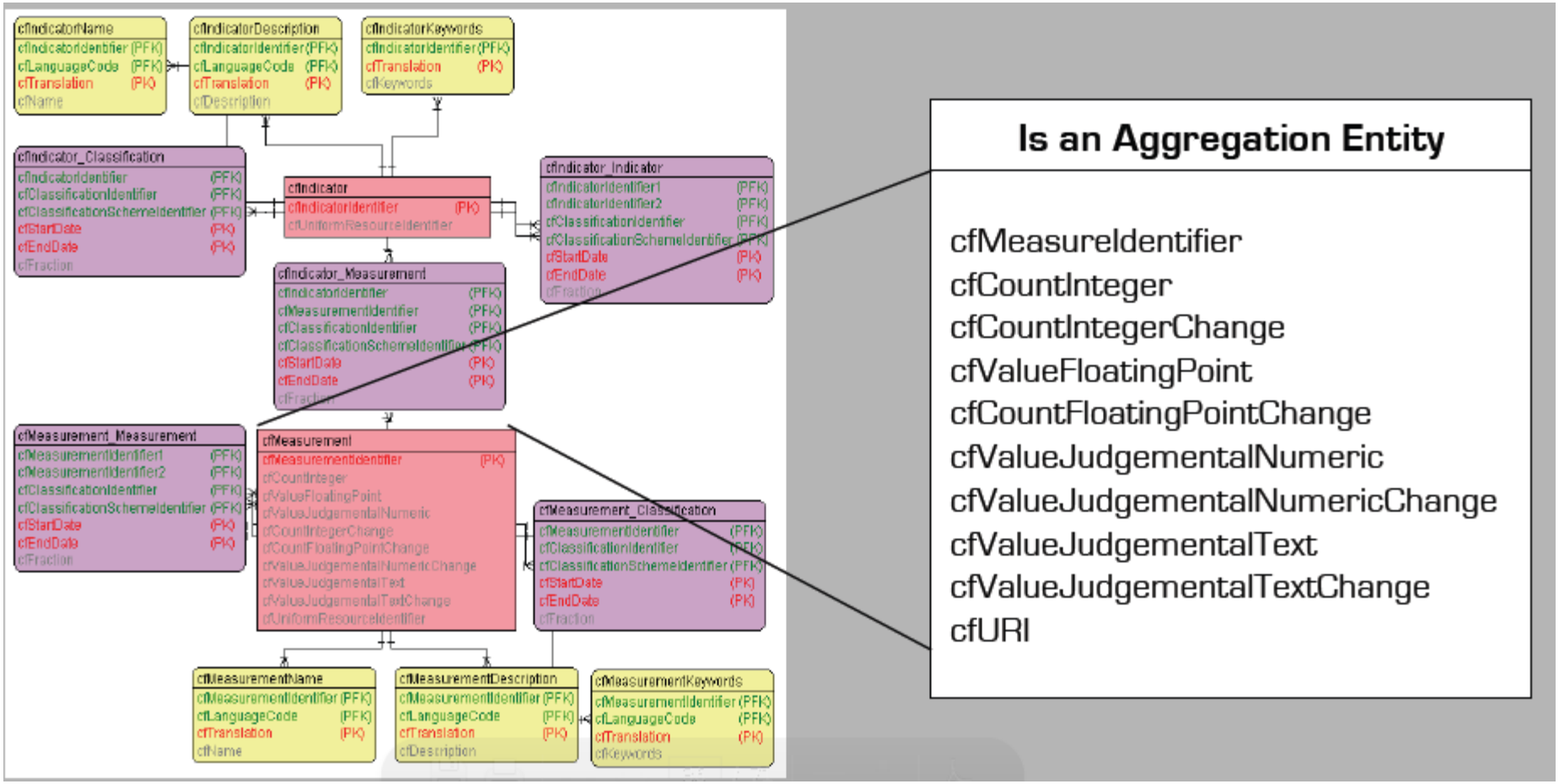
MICE
Measuring Impact under CERIF



Example of Commercial Innovation Indicators and Measures



CERIF Data Structure



Conclusion

- CERIF provides data structure for innovation
  - Including within the GREY process
- It is being used in significant systems
  - Tracking outputs, outcomes, impact
  - Related to contextual, temporal, geospatial metadata
- euroCRIS has an Indicators Task Group
  - New scientometrics (includes bibliometrics)
  - New methods for detecting impact (backward chaining)

- Acknowledgements
  - euroCRIS
  - Especially MICE project