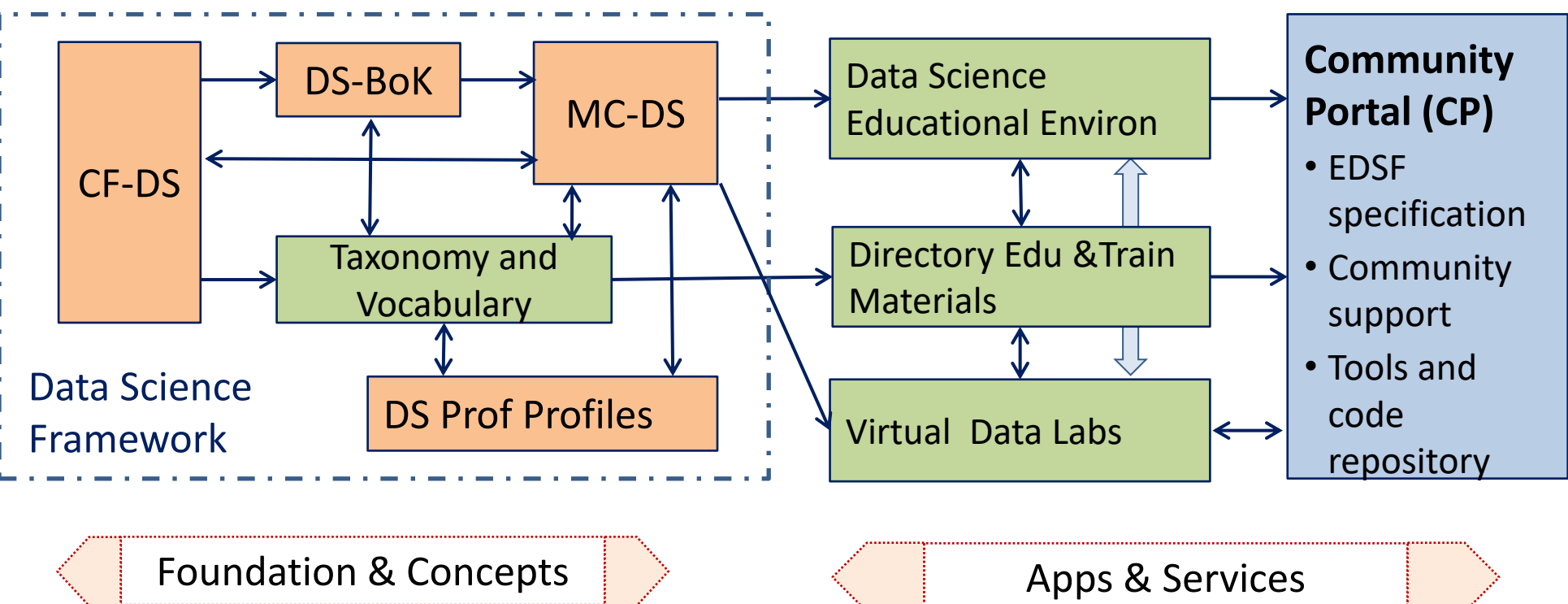


# Data Stewardship Competence Framework: Instrumental in Organisational Skills Management, Career Path building and Training

Yuri Demchenko (University of Amsterdam)

## EDISON Data Science Framework (EDSF): Basis for Data Stewardship Competences Definition



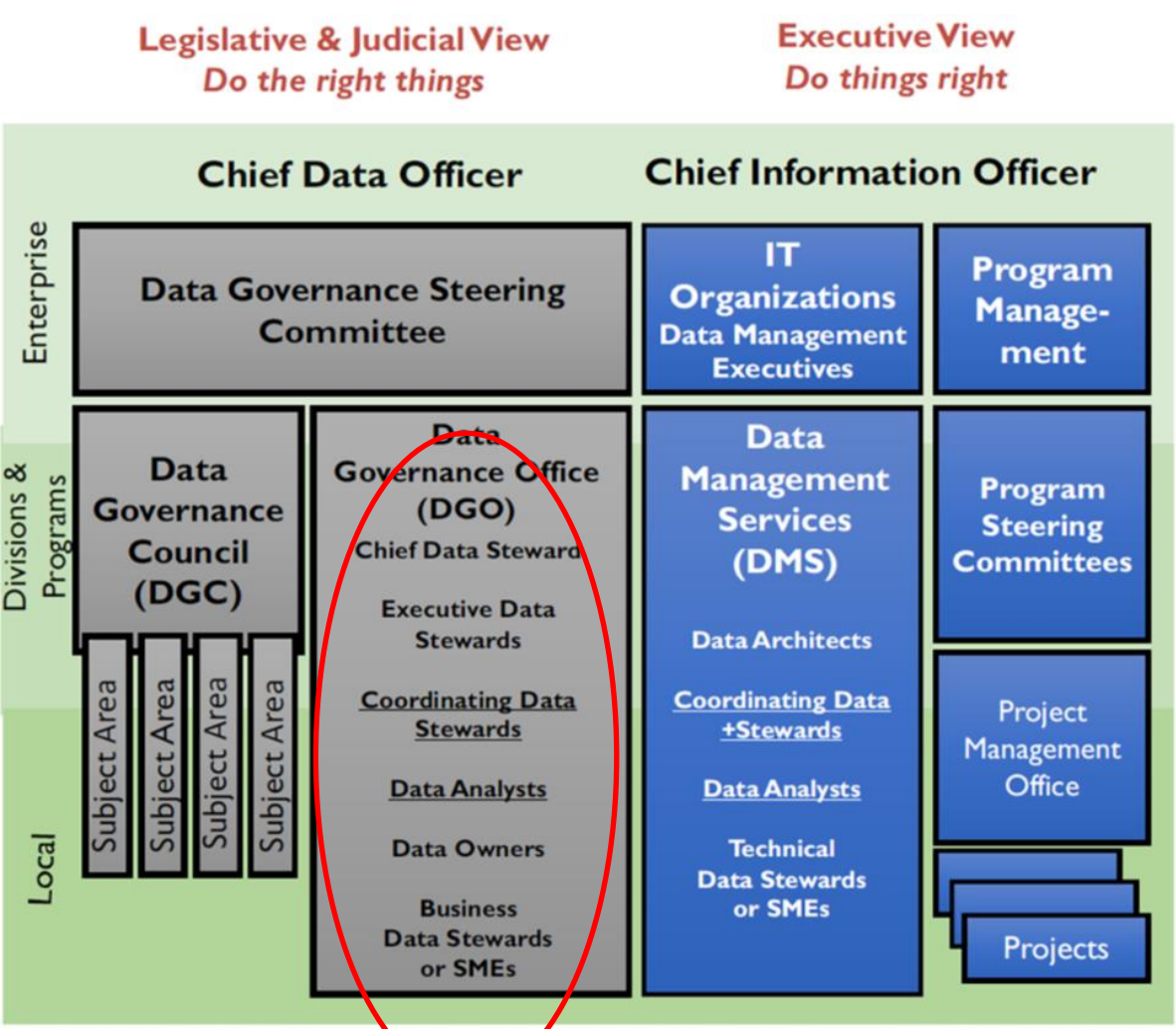
### EDISON Framework core components and documents

- CF-DS – Data Science Competence Framework (Part 1)
- DS-BoK – Data Science Body of Knowledge (Part 2)
- MC-DS – Data Science Model Curriculum (Part 3)
- DSP – Data Science Professional profiles (Part 4)
- Data Science Taxonomies and Scientific Disciplines Classification

### Applications and Services

- Virtual Data Science Labs
- Data Science Educational Environment
- Directory of edu & train resources
- Community Portal – currently github

## Data Steward in the Organisational Data Management and Governance



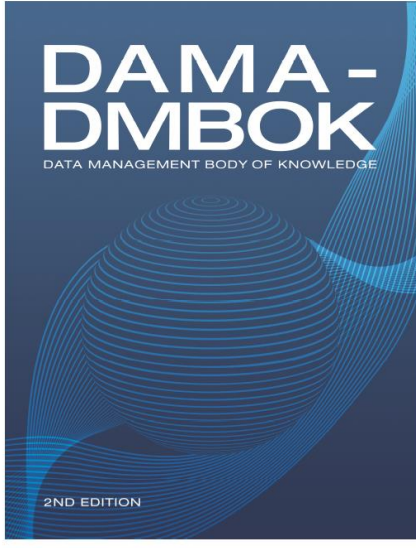
### Data Steward functions

- Creating and managing core Metadata
- Documenting rules and standards
- Managing data quality issues
- Executing operational data governance activities

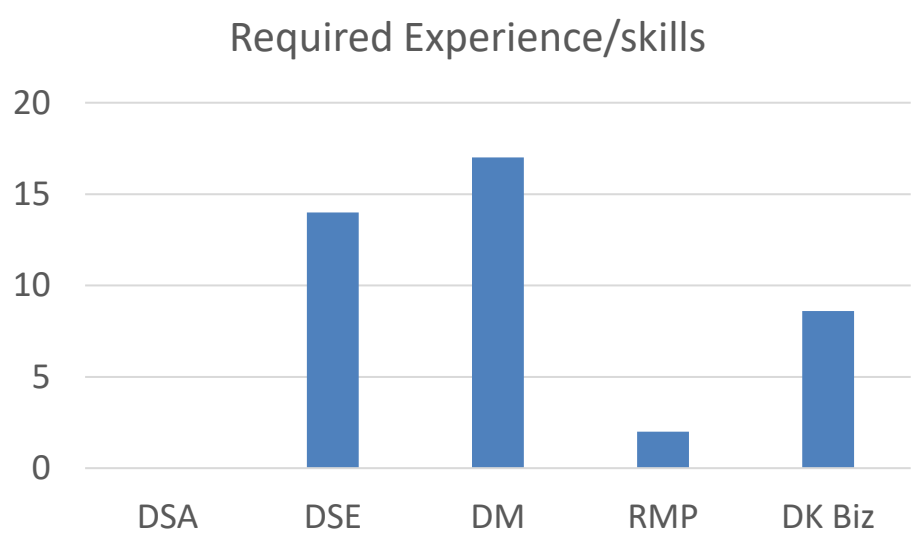
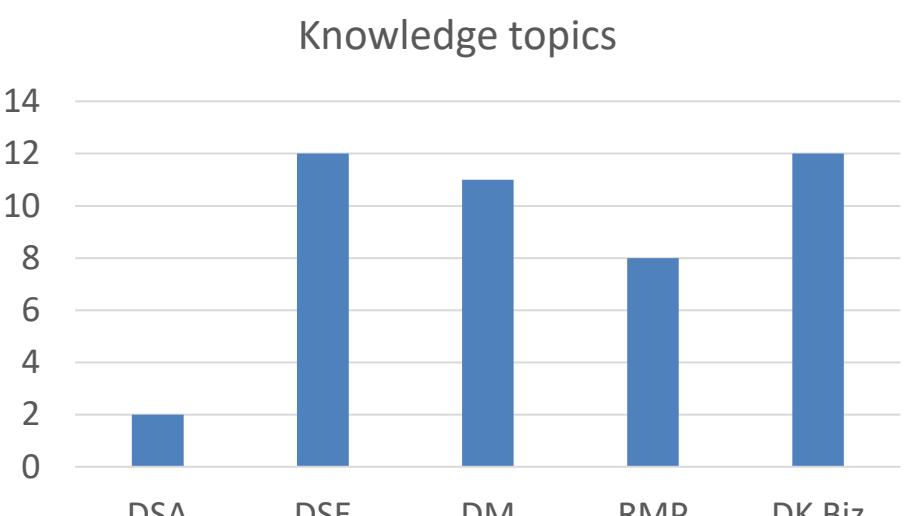
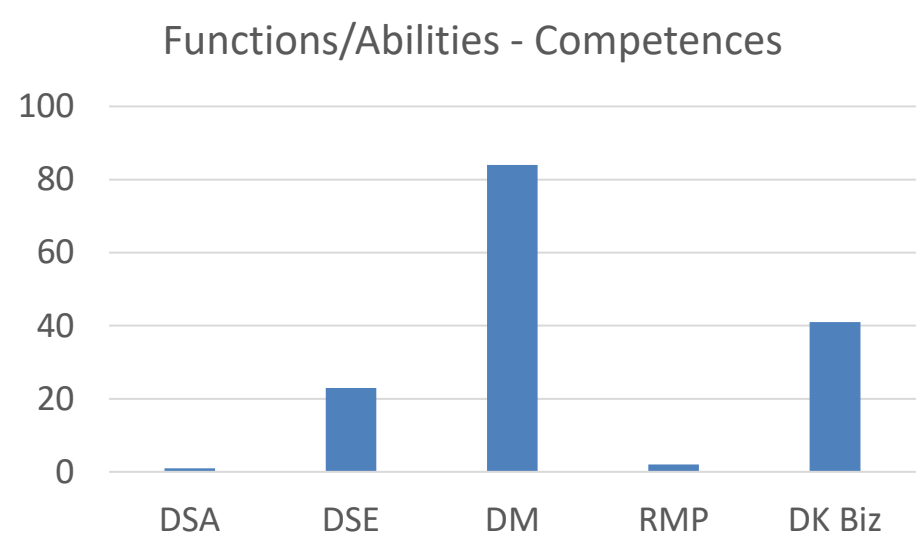
“Best Data Steward is not made but found” DMBOK1 (2009)

- Separation of governance responsibilities
- Multi-layer
- CDO
- CIO
- Councils

- Data Governance Office (DGO)
- Chief Data Steward
- Executive Data Steward
- Business Data Steward or SME

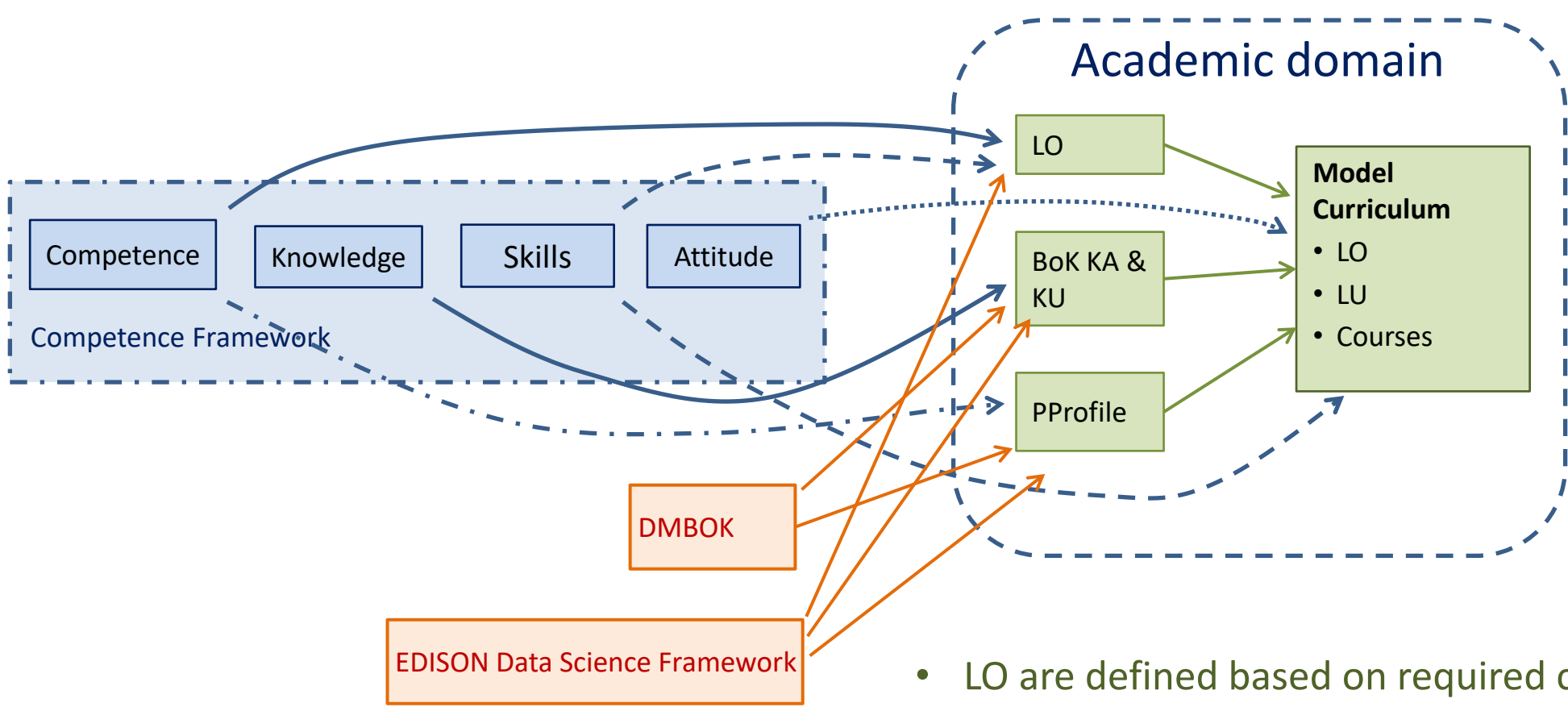


## Job Market Study: Wide range of Competences: Responsibility, Functions, activities



DSA – Data Science and Analytics  
DSE – Data Science Engineering  
DM – Data Management and Governance  
RMP – Research Methods and Project Management  
DK Biz – Domain Knowledge, particular Business domain

## How to use CF-DSP and DSP-BoK for curriculum Design

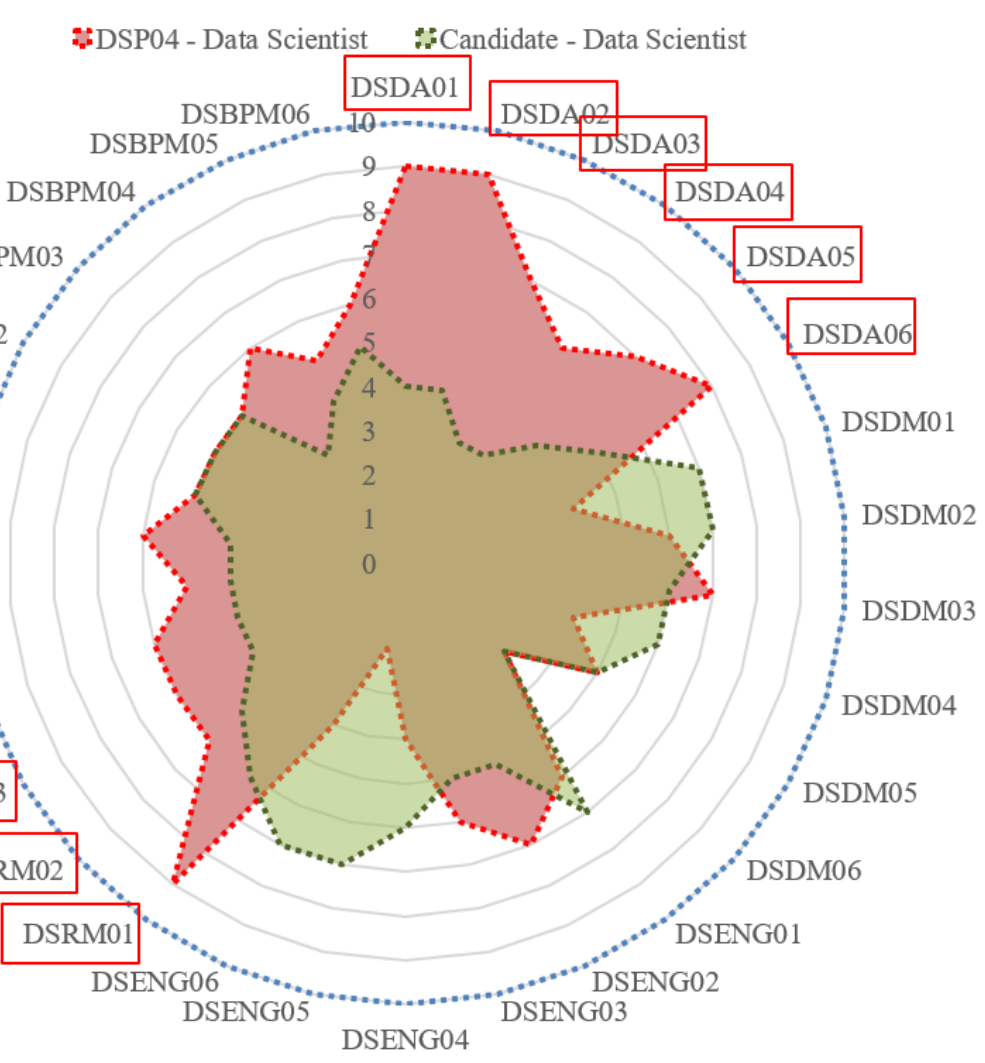


- Relations between Competences, Skills, Knowledge/BoK, Professional Profiles
- Mapping between Competence elements and Academic domain elements

- LO are defined based on required competences
- LU defined by selected KU
- Curriculum target defined by intended Professional Profile
- Final curriculum adopted to available resources
- Look *Adoption Handbook* for suggested courses

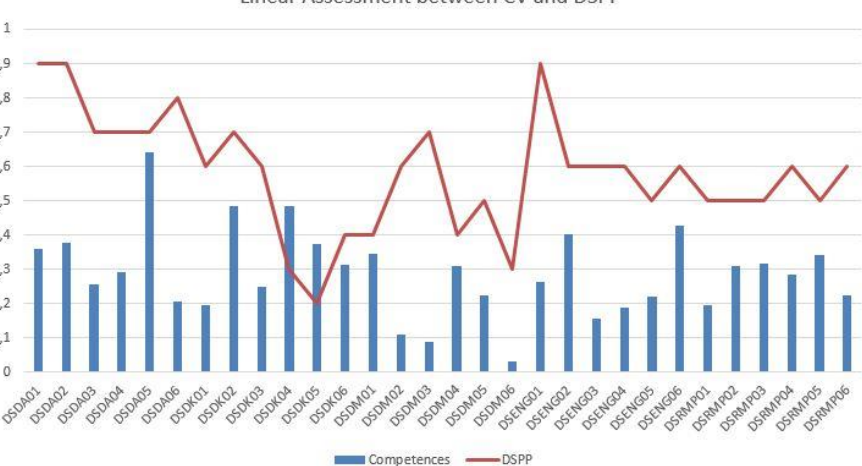
## Individual Competences Benchmarking

### MATCHING – COMPETENCE PROFILES

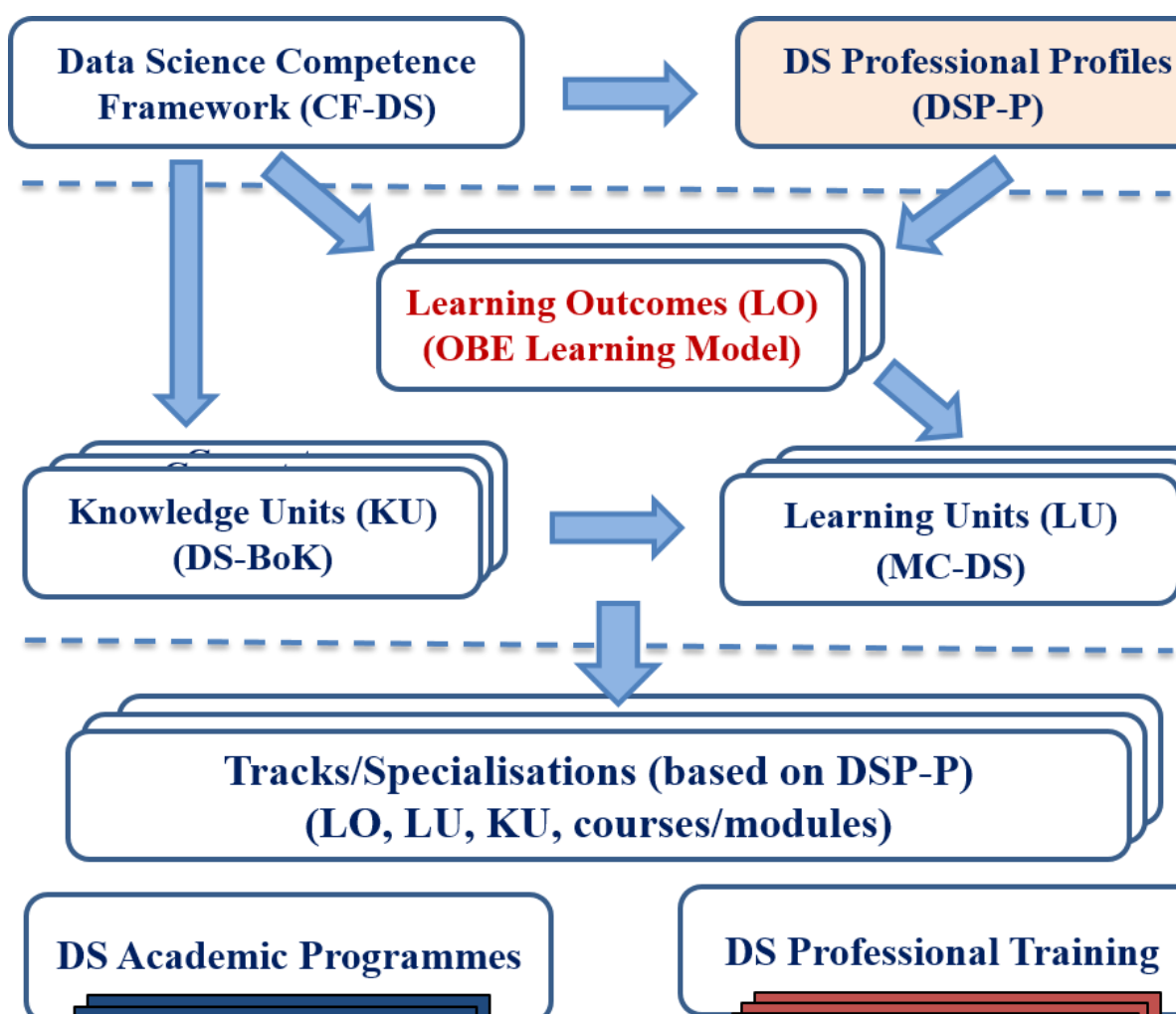


### Individual Education/Training Path based on Competence benchmarking

Red polygon indicates the chosen professional profile: Data Scientist (general)  
Green polygon indicates the candidate or practitioner competences/skills profile  
Insufficient competences (gaps) are highlighted in red  
DSDA01 – DSDA06 Data Science Analytics  
DSRM01 – DSRM05 Data Science Research Methods  
Can be used for team skills match marking and organisational skills management



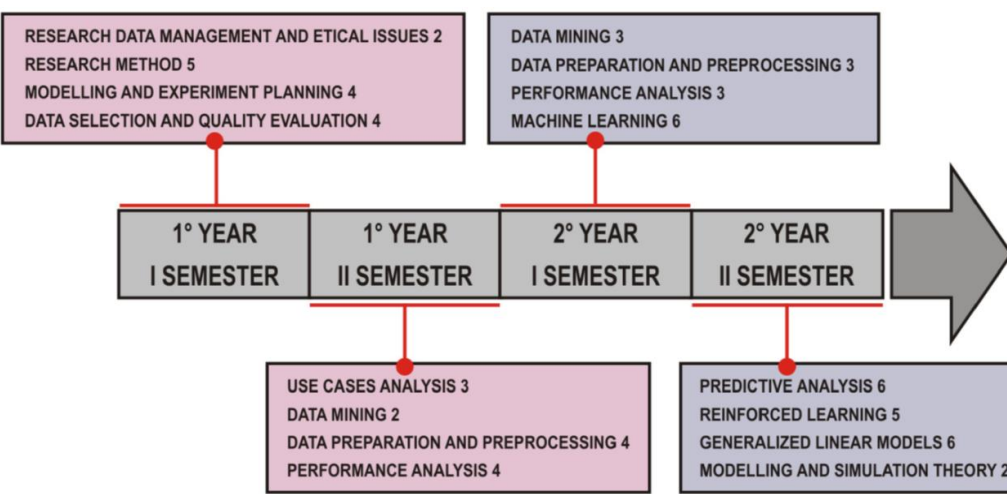
## Outcome Based Educations and Training Model: Addressing target competences for the profession



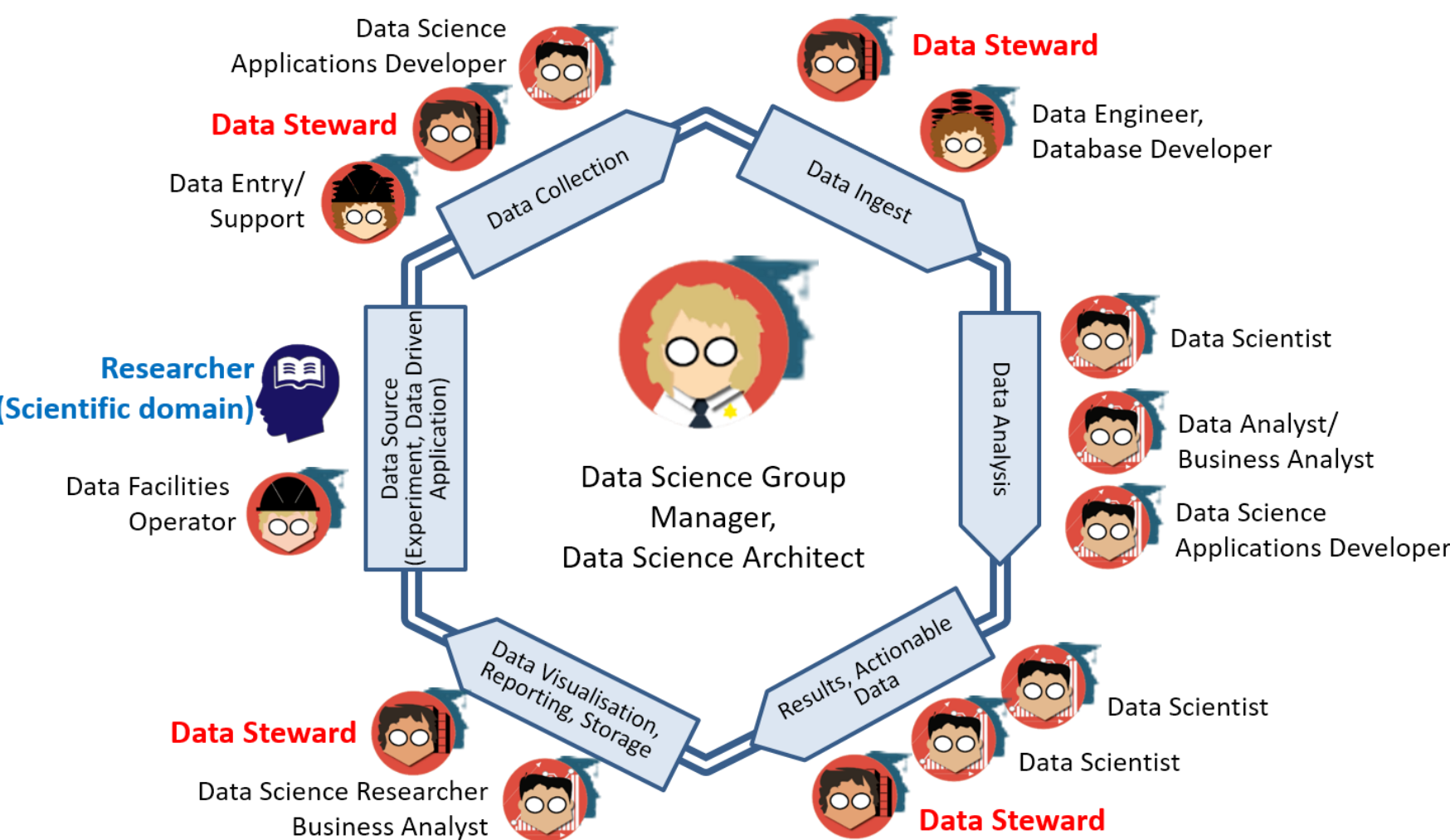
From Competences and DSP Profiles to Learning Outcomes (LO) and to Knowledge Units (KU) and Learning Units (LU)

- EDSF allow for customized educational courses and training modules design

### Example Planning courses by semesters



## Data Steward in the Data Science Team



## References

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