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# EDISON Professional Training and Certification Business Model

WP4

19 May 2016



EDISON – Education for Data Intensive  
Science to Open New science frontiers

Grant 675419 (INFRASUPP-4-2015: CSA)

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# Intro

- EDISON Training and Certification Scheme
  - Based on PMI model
- Business Model Structure
  - Organization to
    - Maintain and update (i.e. as DS evolves, training feedback)
      - Training material
      - Exam questions
      - Website content
    - Interface with Certification Authority
  - Certification Authority
    - Well-recognized to provide value to certificate
    - Provide quality assurance over training structure and exam model
    - Validate trainer policy and training organizations
  - Training organizations
    - Deliver training courses (commercially)



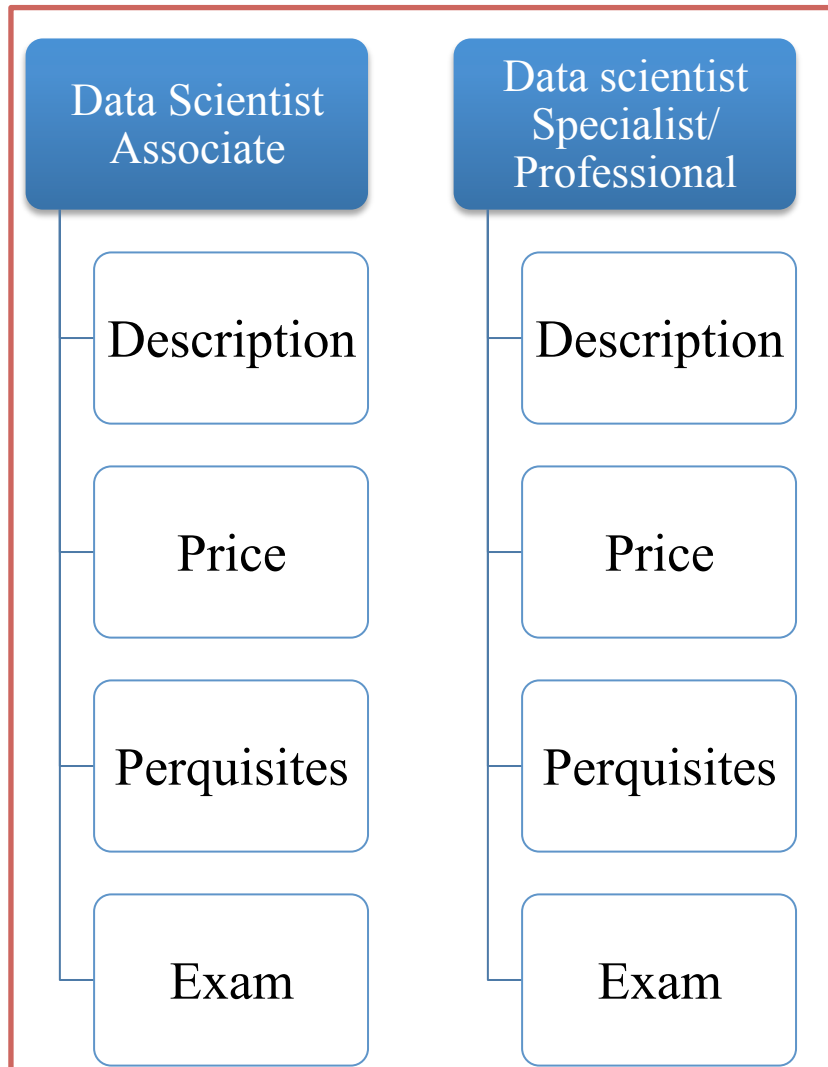
# Certification Types

- Types of certifications:
  - **General**
    - Data Scientist Associate – for students or professionals who want to become Data Scientists
      - (Foundation) understanding of the fundamental knowledge, terminology and technics of effective data science.
      - Based on CF-DS and DS-BoK
    - Data scientist Specialist/Professional – for experienced Data Scientists who would like to prove/improve their proficiency
      - (Professional/Expert) competence to perform in the role of a Data Scientist and lead data research projects
      - Compliant with on CF-DS and DS-BoK, but can go beyond
      - Should be independent from scientific field DS is applied
  - **Specialised**
    - For experts to demonstrate knowledge and expertise in the specialised area
    - Types depending on market need
      - How people specialise
      - What kind of specialisations are needed on the market
    - Can be science area specific and DS profession skill specific
      - e.g. DAE (analysis and engineering)

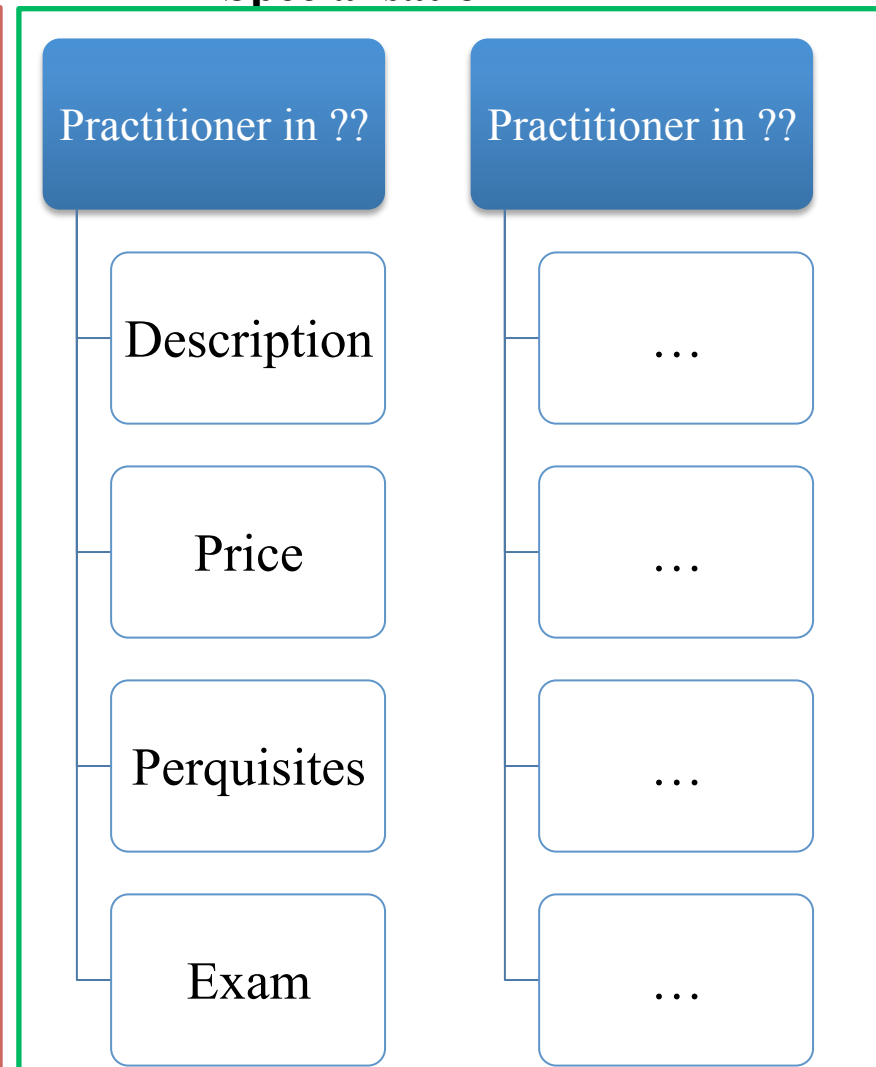


# EDISON Certification Structure

## General



## Specialisation





# Exam content structuring (example)

| No.   | Topic Level 1 Requirements:  | No. | Topic Level 2 Requirements:                                   | No.   | Topic Level 3 - The candidate can:   | Weight |
|-------|--|-----|---|-------|--|--------|
| 1     | Service and service management basics  | 1.1 | Understanding service   | 1.1.1 | explain what an (IT) service is  | 30%    |
|       |  |     |   | 1.1.2 | describe the components of an (IT) service   |        |
|       |  |     |   | 1.2.1 | explain the concept of (IT) service management   |        |
|       |  | 1.2 | Understanding (IT) service management                         | 1.2.2 | explain the benefits and risks of (IT) service management  |        |
|       |  |     |   | 1.2.3 | describe the role of tools used within (IT) service management   |        |
|       |  |     |   | 1.3.1 | describe the benefits and characteristics of a process-based approach  |        |
|       |  | 1.3 | Understanding processes                                       | 1.3.2 | describe how to measure and control a process  |        |
|       |  |     |   | 1.3.3 | explain why and which roles are needed   |        |
|       |  |     |   | 1.4.1 | identify the principles of the plan-do-check-act cycle   |        |
|       |  | 1.4 | Understanding continual improvement                           | 1.4.2 | describe what maturity is and how maturity models work   |        |
|       |  |     |   | 1.4.3 | explain the nature of assessments, reviews and corrective and preventive actions                                       |        |
|       |  |     |   | 1.5.1 | identify the purpose and stakeholder of CMMI, COBIT, ISO 9000, ISO/IEC 20000, ISO/IEC 27000, ITIL                      |        |
|       |  | 1.5 | Understanding the landscape of standards and frameworks       | 1.6.1 | describe the differences between linear chains of responsibility and collaborative approaches to service provisioning. |        |
| 1.6.2 | describe different kinds of federation and which approaches to service management are suitable in different cases. |     |   |       |  |        |
| 2     | Service management processes: Objectives, concepts and requirements  | 2.1 | Understanding the processes for Service planning and delivery | 2.1.1 | describe the objective, key concepts and requirements of the Service Portfolio Management process;                     | 70%    |
|       |  |     |   | 2.1.2 | describe the objective, key concepts and requirements of the Service Level Management process;                         |        |
|       |  |     |   | 2.1.3 | describe the objective, key concepts and requirements of the Service Reporting Management process;                     |        |
|       |  |     |   | 2.1.4 | describe the objective, key concepts and requirements of the Service Continuity & Availability Management process;     |        |
|       |  |     |   | 2.1.5 | describe the objective, key concepts and requirements of the Capacity Management process;                              |        |
|       |  |     |   | 2.1.6 | describe the objective, key concepts and requirements of the Information Security Management process;                  |        |
|       |  |     |   | 2.1.7 | describe the objective, key concepts and requirements of the Customer Relationship Management process;                 |        |
|       |  |     |   | 2.1.8 | describe the objective, key concepts and requirements of the Supplier Relationship Management process;                 |        |
|       |  | 2.2 | Understanding the processes for Service operation and support | 2.2.1 | describe the objective, key concepts and requirements of the Incident & Service Request Management process;            |        |
|       |  |     |   | 2.2.2 | describe the objective, key concepts and requirements of the Problem Management process;                               |        |
|       |  |     |   | 2.2.3 | describe the objective, key concepts and requirements of the Configuration Management process;                         |        |
|       |  |     |   | 2.2.4 | describe the objective, key concepts and requirements of the Change Management process;                                |        |
|       |  |     |   | 2.2.5 | describe the objective, key concepts and requirements of the Release & Deployment Management process;                  |        |
|       |  |     |   | 2.2.6 | describe the objective, key concepts and requirements of the Continual Service Improvement process;                    |        |



# EDISON Certification To Dos

- Names/titles of certification courses based on CF-DS and DS-BoK
  - Complete descriptions of each
  - Structure the distribution of content
- Number of exam questions per course
- Question format and difficulty e.g. multiple choice
- Pass rates/rules for passing
- Training materials
  - Ideally we want to provide materials, but maybe not within the project, only outline for examinations and CF-DS and DS-BoK



# Certification Business Model (example)

## EDISON-After-EDISON Organization

- Maintenance of the EDISON certification scheme
- Continual development and improvement of the pools of exam questions
- Maintenance and continual improvement of the training material
- Overall quality control, training and exam feedback evaluation, ...



## Certification body / examination institute

- Processing and invigilation of EDISON exams
- Issuing of certificates for persons after they passed the exams
- Registration of trainers and training organisations



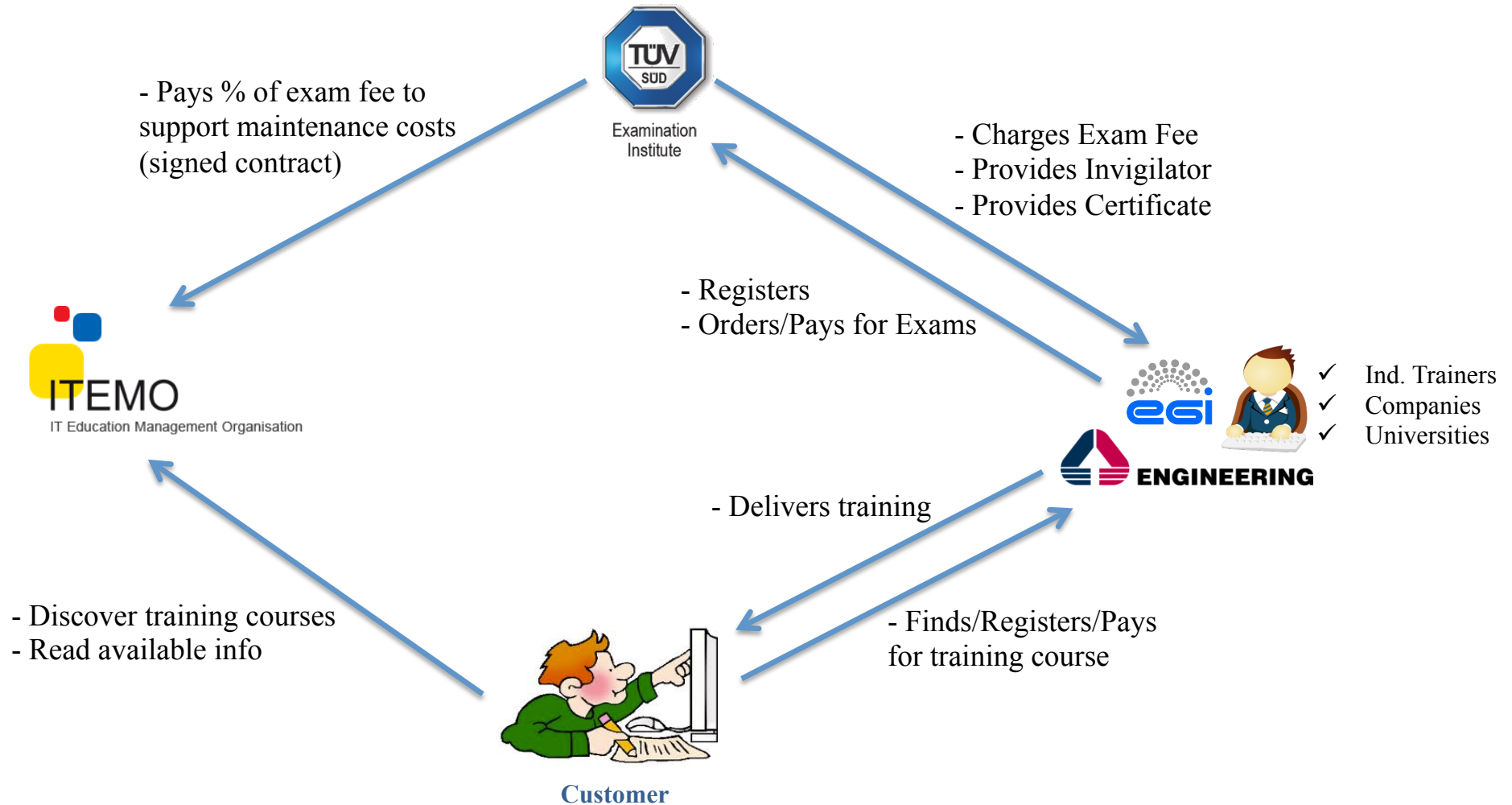
## Trainers and training organisations

- Provision of EDISON trainings
- Optional: Contribution to the development of EDISON trainings (e.g. material)





# Certification Business Model (processes)







## Register as EDISON Training Org. (example)

- **When should you register your organisation as an EDISON training organisation?**
  - If you are going to organise internal EDISON trainings and exams for the members / employees of your organisation, which will be given by one or more trainers associated with your organisation
  - If you are going to offer public EDISON trainings and exams or internal EDISON trainings and exams for other organisations, which will be given by one or more trainers associated with your organisation
- **How to register:**
  1. Select an EDISON certification body / examination institute
  2. Fulfil the registration according to the procedures of the certification body.  
(This usually includes the provision of some information on the organisation and the foreseen trainers as well as an image file of the organisation's logo for inclusion in the public website of the certification body, if desired)



# EDISON trainer policy (example)

- To give any training from the EDISON qualification scheme, the trainer must comply with the following:
  - If the trainer offers EDISON training(s) individually, the trainer must, prior to ordering the exam from an EDISON certification body [e.g. TUV SUD], register with the certification body him-/herself which will require the trainer to provide at least the following information:
    - Personal and contact data
    - Record or evidence of relevant training, education and experience
- The certification body and the EDISON-After-EDISON qualification working group may monitor exam results and training / exam feedback, supervise trainings and exams and reserve the right to revoke trainer privileges. Trainings and exams may be subject to quality control mechanisms, and every trainer must commit to support and contribute to this process.



# Certification Business Model To Dos

- EDISON-After-EDISON Organisation
  - Licence/IPR
    - What body can hold the EDISON certification license (ITEMO? Other?)
    - Check consortium agreement for transfer of licence, IPR and use of foreground
    - Use of Creative Commons?
  - How will the maintenance of the scheme be conducted
    - Working Group within organisation?
      - All interested EDISON partners
      - Policy for inclusion of externals
- Certification Authority
  - Existing relationships with TUV SUD
    - Any others to be considered?
- Training Organisations
  - How to certify/register e.g. policy
- Pricing