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The scope of this document is to provide an overview of the main models known in literature for supporting university spin-offs creation. It contributes for the future developments of the UNISON network model, a work in progress that evolves towards the full articulation of the spin-off companies network.

The core performance and evolution models will be presented in increasing order of complexity. Firstly, the linear models, followed by the so-called pull/push models, which can assume five different variants, a holistic model to overcome the gaps found in the linear models and, finally, two more complex evolution models.
LINEAR MODELS
The global process of valorisation by spin-offs

The development of spin-off companies

1. Research
   - Opportunity recognition
2. Opportunity framing
   - Entrepreneurial commitment
3. Pre-organization
   - Threshold of credibility
4. Reorientation
   - Threshold of sustainability
5. Sustainable returns

Spin-off stages model

External funding sources

The investor usually takes equity in the spin-off company in return for the investment funds.
PULL/PUSH MODELS
Technology push with independent principal groups

Technology Originator; Technology Licensing Office; Entrepreneur; Venture Capital Fund.

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Technology push/business pull with an entrepreneurial technology originator

TECH: Technology Originator;
TLO: Technology Licensing Office;
ENTR: Entrepreneur;
VC: Venture Capital Fund.

Technology push/business pull with an entrepreneurial technology originator and an internal venture capital fund

**TECH/ENTR**

Technology Business Opportunity

**TLO/VC**

License Funding

**TECH/ENTR**

Spin-off Business

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**TECH**: Technology Originator;

**TLO**: Technology Licensing Office;

**ENTR**: Entrepreneur;

**VC**: Venture Capital Fund.

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Business pull with internal venture capital funds

TECH: Technology Originator;
TLO: Technology Licensing Office;
ENTR: Entrepreneur;
VC: Venture Capital Fund.

Business pull with an entrepreneur/venture capital fund alliance

TECH: Technology Originator;
TLO: Technology Licensing Office;
ENTR: Entrepreneur;
VC: Venture Capital Fund.

Lease Technology
Create Spin-off
Great Economic and Social Value

Disclosure of Invention or Innovation
Decision: File Patent
Technology Licensing Office (TLO)

STAGE 3

Pure Research
Research Results
Test & Confirmation

Applied Research
Research Results
Test & Confirmation

STAGE 2

Self Or University Funding
Corporate Funding
Public Funding

Identifying Competences
Capabilities

STAGE 1

EVOLUTION MODEL

**BORDER SCANNING**

**Research**

Avoid competition, unforeseen events, economy, environments

**Trigger**

Idea finder, opportunity discover

**Resources Inputs**

Research Provider Program

**Idea/New Knowledge**

Research

**Opportunity**

Technology Opportunity

**Reorientation**

Surrogate Entrepreneur

**Technology Development Proof of Concept Prototype**

First Investor

**Sustainable returns**

Entrepreneur

**Idea/New Knowledge**

Idea finder, opportunity discover

**Research**

Research provider assessment/support

**Seed**

Business angel equity own revenue

**Sales**

Venture

**Idea/New Knowledge**

Idea finder, opportunity discover

**Research**

Research provider assessment/support

**Seed**

Business angel equity own revenue

**Sales**

Venture

**Government Programs**

Advice, support, experience, monitoring, incubators, etc.
INTEGRATED EVOLUTION MODEL

University-enterprise cooperation via spin-off companies network
Cooperation for innovation and the exchange of good practices

573555-EPP-1-2016-1-ES-EPPKA2-CBHE-JP Erasmus+ Capacity Building in Higher Education
15/10/2016 - 14/10/2019

Partners

INSTITUTO POLITECNICO DE COIMBRA
UNIVERSITY OF SANTIAGO DE COMPOSTELA
NIZHNEVARTOVSK STATE UNIVERSITY
FACHHOCHSHULE DES MITTELSTANDS
TBILISI STATE UNIVERSITY
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BOLOGNA CLUB
MOSCOW STATE UNIVERSITY OF GEODESY AND CARTOGRAPHY
PERM STATE UNIVERSITY
SAINT-PETERSBURG STATE UNIVERSITY OF ECONOMICS
YANTAI ACADEMIE OF AGRICULTURAL SCIENCES
YANTAI HI-TECH INDUSTRIAL DEVELOPMENT ZONE
LUDONG UNIVERSITY

Description

The project is designed to define clearly the mechanisms of transfer and commercialization of knowledge and technologies, which are to be understandable unambiguously and executable within the reasonable timeframes. Realization of the project will enable to eliminate the existing difficulties and bottlenecks in cooperation with enterprises, to make structure of the cooperation more clear and robust and to give new opportunities and open new work horizons. The project is aimed to bring cooperation quality to a new level, to improve it and to enlarge. It means that new communicative, scientific and business links will be established between the enterprises and HEIs.
The cooperation to be improved for the following groups: students, teaching and administrative staff of the university and the enterprise. The changes are to be executed at the level of the consortium and to be applied to all the participants. The cooperation for the abovementioned groups will be realized in the forms of internships, workshops, meetings, conferences and round tables. There are no spin-off network between Russia, Portugal, Germany, Spain, China and Georgia. The first steps to build such effectively operating network will be taken in the project by the specialists from the participating parties. The wider objective is promoting Bologna process implementation through enhancing university-enterprise cooperation via spin-off companies best practices.

**The specific objectives are the following:**
Development of effective SOC-Model for university-enterprise partnership and piloting in RF and Georgia HEIs. Creating of virtual international spin-off network.

**Project Outcomes**

1. SOC-Model for university-enterprise partnership;
2. Guidelines for SPC-Model for university-enterprise partnership implementation in partner HEIs (EU countries, Russia, China and Georgia);
3. Training courses for spin-off developers;
4. Virtual international spin-off network.
Spin-offs Model Catalogue

UNISON

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