

**INNOSEE PROJECT**  
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European Commission - Lifelong Learning Programme



RESEARCH DRIVEN CLUSTERS

**Methodology for Needs Assessment**  
ITPIO (P2), INTELSPACE (P6)

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Education and Culture DG

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## CONTENTS

1. Methodology requirements from the application file .....	3
2. Methodology requirements from the approved specifications .....	3
3. Process for RDC needs assessment: A workflow .....	5
4. Methodology for RDC training needs assessment.....	6
4.1. Two levels of RDC needs assessment .....	7
4.2. SWOT analysis of RDCs .....	10
4.3. Key success factor analysis of RDCs.....	11
4.4. Defining the gaps in RDC management skills .....	13
4.5. Main areas of RDC training needs .....	16
4.6. Focus groups for orientation and validation of training needs.....	20
5. Conclusions. Recommendations for a training curriculum in RDC management...	21

## 1. Methodology requirements from the application file

The methodology will elaborate on important areas of competences for research-driven cluster managers, including leadership capacity, team management, knowledge about strategy development tools, innovation management tools, tasks and duties regarding internationalisation issues of research-driven clusters and training in international context, towards methods and organization of research-driven clusters (RDCs).

According to the application file the INNOSEE methodology must encompass the following activities:

1. State of play of the participating countries and identification of research-driven clusters – elaboration of analysis on the clusters' performance and their potential based on desk research. The analysis will be focused on the identified clusters and the critical success factors or barriers to their development.
2. Development of the tools for market research and needs assessment of the identified clusters: multilingual questionnaires and interview sheets to ensure that an optimal level of input is gathered from respondents across the countries involved in the project. In addition – focus group discussions with cluster members to find about their expectations and perspectives for the future development and networking within the research-driven clusters.
3. Carrying out interviews with 40 cluster managers and members from each country on the basis of the questionnaire developed in the previous work package.
4. Organizing two focus group discussions per country to complement the information from the interviews. The discussions within the focus groups will allow for tailoring the training on cluster management to the imminent needs of the research-driven clusters in the six countries.
5. Elaboration of national assessment reports on needs for cluster management training of the research-driven clusters.
6. Elaboration of one report summarizing the common issues identified by the partners for their respective country.

## 2. Methodology requirements from the approved specifications

The methodology will be elaborated by partners P1 and P6 having 20 and 5 working days respectively for this activity. The joint report will be submitted to all partners by 10 December 2011. The methodology for RDC need assessment will follow a series of steps as below:

	Step	Result
1	State of the art in RDCs. Two cases of SWOT analysis in each region	Identification of regional RDCs characteristics
2	Synthesis of internal strengths and weaknesses and external opportunities and threats of RDCs	Analysis of RDCs success factors and barriers

3	Template for information gathering (questionnaire)	Linking key success factors and barriers to RDC management processes and training needs
4	Survey - 40 questionnaires per country	Identifying training needs in relation to RDCs management processes
5	Focus groups to verify and complement the results of training needs –regional level	Final regional report of training needs
6	Consolidation of regional reports on training needs	Final definition of training needs
7	Workshop – discussion on training need assessment	Review of training needs – Recommendations for the next work packages

**Table 1: Need assessment activities**

The methodology of assessment will bring together the following aspects of RDCs:

- State of the art for RDCs in each country / region**

The state of the art is intended to identify key success factors and barriers of RDCs in each participating region. The approach followed is SWOT methodology to investigate internal and external environment of the clusters. The methodology directs the surveyors towards the key outcomes following a formalised collection template for RDCs, along a collection of all RDC support policies for the region. The results of the SWOT analysis will actually present the need for further training in specific areas that RDCs have weaknesses, deploy opportunities and face threats.
- Internal strengths and weaknesses and external opportunities and threats of RDCs**

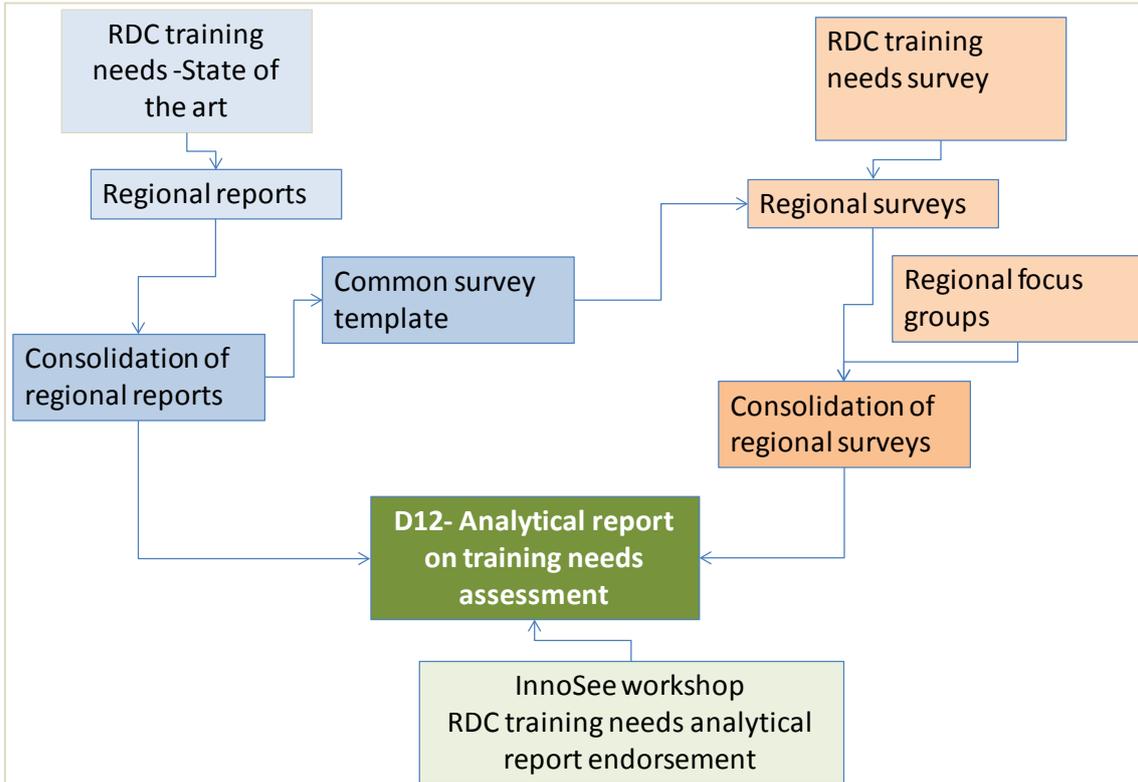
The synthesis report will consolidate the key success factors and barriers collected in each participating region into a single document of key factors for success and barriers to RDCs. Also their projects and networks of European level on cluster development will be studied. This document will codify the crucial elements for creating and developing RDCs. At this stage the focus will be based in linking key success factors and barriers with RDC management processes, for example:

Key factor	RDC management process
International market prospective	NICHE market planning

Considering the above two complementary aspects, we will be able to identify **the training needs** related to management processes and related skills for RDC managers.

### 3. Process for RDC needs assessment: A workflow

Following the above two frameworks of the methodology for the RDC training needs assessment - the requirements from the application and the requirements from the specifications - the diagram below presents the main elements of the methodology and the organisational workflow among these elements.



**Fig.1: RDC training needs assessment workflow**

The methodology initiates with the investigation of RDC regional environment in the targeted regions. The training needs will be analysed in terms of internal strengths, weaknesses, external environment opportunities and threats for RDCs. The regional analysis will include the structure, orientation, development stage of RDCs along with supporting policies for them. The regional analysis reports of the state of the art will conclude the SWOT components that describe the operational environment of local RDCs in activity 1. The template for regional RDC analysis has been described in the specification deliverable (D10) of WP3.

In activity 2, all regional reports will be consolidated into a final conclusive report for the operating environment of RDCs in targeted areas. The consolidated report will summarise and conclude all SWOT components from participating regions. These components will be interpreted in terms of key success factors and barriers to the development of RDCs. These key areas will be the focal point for RDC training, which will be expressed in terms of RDC processes.

In activity 3, a common survey template will be designed, which will describe the key RDC processes and the related skills that are needed to successfully manage RDCs. The template relates key RDC processes with corresponding skills. The survey is structured to investigate the gap between existing and needed skills and the significance of these skills to the success of the RDCs.

The template will be used to investigate the training needs for RDCs in each targeted region. The surveying process will conclude the learning gaps between existing and non-existing skills and the significance level of skills in each region. These outcomes will be presented as the quantitative regional need analysis. This report is based mainly on the statistical analysis of the survey's results of activity 4. By applying skills gap analysis across RDCs it is possible to find out which skill and knowledge shortfalls needed to counterpart with training. It is then possible to target training resources on those necessary skills that require the most attention. This should result in the optimal use of resources in terms of improving the overall performance of RDCs.

In activity 5, each targeted region the survey's statistical reports in training needs will be evaluated and validated by a regional focus group of experts, who in turn, will complement and conclude the final regional training needs analysis.

In activity 6, the regional reports on training needs will be consolidated into a synthesis report of learning aims, skills and training targets. The consolidated report on training needs and the consolidated report on regional environments will cross-analysed and conclude the analytical report on training needs assessment. This conclusive report will finalise the InnoSee training need assessment documentation. The main focus areas of a needs assessment of an RDC are related to both their management practices and the work of every member of a cluster, as well as methods to coordinate both within, and across the firms. As a result, the needs assessment would present a clear idea of what is to be achieved by the RDC given the current situation, and how the cluster has to change after the needs are fulfilled. It will describe in detail:

- Learning aims
- Target group or groups
- Goals based on the results of SWOT and KSF analysis
- Training needs in relation to these goals

In activity 7, the InnoSee analytical report on RDC training needs will be discussed and endorsed in a conclusive workshop for RDC training need analysis. The workshop will also prepare recommendations regarding the design of structural and functional characteristics of the training process for the forthcoming work packages of the programme.

#### **4. Methodology for RDC training needs assessment**

The methodology for RDC training needs assessment is focusing on the analysis and understanding of a series of key areas, such as:

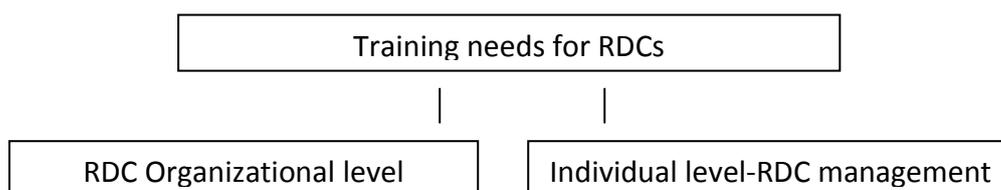
1. The levels of RDC needs assessment
2. SWOT analysis of RDCs
3. Key success factor and barriers of RDCs
4. Defining the gaps in RDC management
5. Defining the main areas of RDC training needs
6. Focus groups for orientation and validation

#### 4.1. Two levels of RDC needs assessment

The training needs assessment is a critical activity for the training and development function. Long before any actual training occurs must be analysed with as much information as possible about related tasks that need to be learned and competencies and skills that are needed to perform management on RDCs. The assessment begins with a "need" which can be identified in several ways but is generally described as a gap between what is currently in place and what is needed, now and in the future. Gaps can include discrepancies/differences between<sup>1</sup>:

- What RDCs expects to happen and what actually happens
- Current and desired job performance of RDC management team
- Existing and desired competencies and skills of RDC staff

CEDEFOP<sup>2</sup> has developed a “skill analysis for the future” methodology, emphasizing the fact the specification of training needs is an important intangible asset for skillful Europeans. The report concentrates not only on the individual but to the environment that he/ she is employed. Thus, RDC training needs are interdependent because the organization performance ultimately depends on the performance of its individual employee and its sub group. The need analysis concentrates at organizational level and individual level.



**Fig. 2: Training needs analysis levels**

**RDC-Organizational Level** – *Training need analysis* at organizational level focuses on strategic planning, business need, and goals. It starts with the assessment of internal environment of RDC such as, procedures, structures, policies, strengths, and weaknesses and external environment such as opportunities and threats. The RDC

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<sup>1</sup> TRAINING NEEDS ASSESSMENT By Janice A. Miller, SPHR and Diana M. Osinski, SPHR

<sup>2</sup> CEDEFOP Skills for Europe's future: anticipating occupational skill needs 2009.

organizational training need analysis concentrates on the training of the management team as a generic RDC training package. Thus, the profile of the trainee is “RDC manager” generic profile that respond to the institutional learning needs of the RDC related to following three main levels of organisational learning, which encapsulate varying combinations of formal and informal learning activities:

- a) Information gathering – The lower data monitoring, acquisition and management intended to ensure that an RDC remains aware of changes and developments in the markets in which they operate.
- b) Knowledge acquisition – A process whereby RDCs define, acquire the skills, know-how and strategic intelligence necessary to carry out day-to-day activities.
- c) Competence consolidation and development – A process whereby existing information and knowledge is converted into learning (through, for example, identifying skills deficits, acquiring new knowledge through training and collaboration)

Based on the inter-relationship of these levels of “organisational learning” five main types of RDC characteristics were identified<sup>3</sup>:

- a) “Crisis Driven”- describes a high proportion of very small RDC member enterprises and new start-ups that respond to challenges and opportunities, their decision-making strategies are shaped by a dominant personality and do not have industrial relationships.
- b) “Endogenous” - are generally larger RDC member enterprises. Their focus for learning is on knowledge acquisition processes and behaviours derived from in-house practices. This knowledge is acquired through mentoring, on-the-job training and “head hunting”. They are also disengaged from industrial relationships.
- c) “Exogenous” - are outward looking. They develop their skills base through external sources of expertise i.e. training courses. Their strategic management practices focus on systematic competence development of a continuing training basis using specialised training providers. They opportunistically use local networks.
- d) “Embedded - Information Centred” – are highly embedded within local industrial relationships; use community bases networking for intelligence gathering, knowledge acquisition and consolidation and enhancement of skills; have limited organisational learning, which utilises community, informal and family networks.
- e) “Embedded - Competence Centred” are similar to “Information Centred” except they use formalised practices and processes for competence development and their strategic practices are largely confined to informal information gathering.

The outcomes of regional analysis s should examine whereas exist any specific RDC formation that require a specialized form of organizational learning. Some examples of specific RDC formations are: <sup>4</sup>

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<sup>3</sup> Briefing Papers on “New Perspectives for Learning” , <http://www.pjb.co.uk>

<sup>4</sup> IKED, The Cluster Policy White Book, <http://www.iberpymeonline.org>

- Porterian - situated in a clearly defined historical and cultural industrial relationship with collaborative networking between SMEs in similar markets. Governance structures are flexible.
- Segmented Porterian - similar to above but interactions between SMEs are shaped by differentiation in producer-supplier relations and different market positions and niches. Networking is by loose associations with a central figure, association or service base and the governance structure is more formal.
- Interlocking - work to forge links of common interest within the local economy. Networking is diverse and ranges from loose interest groups formed for promotional purposes to professional associations with a common project.
- Induced Partnership - is formulated by external agencies (non-community based), which co-ordinate organizational learning within the cluster. Development agencies provide communications and decision-making structures which central services can support.
- Virtual Cluster – is a national network of family enterprises bound by common history and objectives, with entrepreneurial decision-makers playing the dominant role. Alternatively, it can have a common activity base linked through an information and communication technology infrastructure.

The organizational training need analysis should be able to respond to the following analysis inquires:

1. What are the training needs at RDC level related to the areas of information, knowledge acquisition and competence consolidation and development?
2. Whether does exist a need for specialized training options derived from the types of “organizational learning” characteristics in the RDCs of the targeted regions?
3. Whether training orientation at organizational level should be concentrated on specific type(s) of RDC formation?

**Individual Level-RDC management** – Training Need analysis at individual level focuses on the work that is being assigned to the RDC management team. The analysis follows CEDEFOPs skill based assessment methodology to define professional skill matrixes for RDC managers. These skill matrixes are the outcomes of training methodology, which in turn must be transformed into learning units. The analysis of training needs at individual level depicts the need for “**individual learning paths**” instead of the generic “RDC manager” training profile at organizational level.

The analysis should specify if there is a need for the generation of specialized training modules in the form of individual learning paths for expert RDC training profiles. Some examples of these profiles could be:

- RDC innovation manager, new product development coordinator
- RDC financing officer, funding research
- RDC marketing manager, marketing product and services

The training need analysis at individual level should examine issues that document the demand for individual training paths. Whereas, there is a need for organizational type of training or / and for individual learning paths is an issue that should be examined within the forum discussion topics, that could feed these options with answers.

## 4.2. SWOT analysis of RDCs

The SWOT is based on the analysis of regional characteristics for RDCs in the targeted regions. Moreover the regional support conditions should be investigated regarding the existence of the following RDC support policies:

- to create favorable framework conditions;
- to stimulate interactions and knowledge exchange among the various actors by acting as a facilitator and moderator;
- to remove informational deficiencies by providing strategic information through foresight studies, strategic cluster studies and evaluation and disseminating information;
- to set up competitive cluster development programmes and projects for joint industry–academia research centres, or platforms based on public–private partnerships;
- to enhance Human Resources and knowledge flows

While RDC policies are emerging at European level, SWOT analysis exemplifies the local characteristics of RDCs in the targeted regions. Training need analysis at organizational level focuses on strategic planning, business need, and goals. It starts with the assessment of internal environment of the organization such as, procedures, structures, policies, strengths, and weaknesses and external environment such as opportunities and threats. The basis for strategy development is provided by the **starting point analysis** and the environmental conditions relevant for the RDCs. The important point of a systematic **SWOT analysis** is to establish a realistic picture of strengths, weaknesses, opportunities and threats. Outcomes of SWOT analysis will conclude the following:

### **Strengths (internal to RDC)**

- Strengths derived from a strong research orientation, results
- Strengths from strong cluster membership
- The cluster members are entrepreneurial and innovative
- The cluster owns a wide variety of technological advancements
- There is a wide availability of research infrastructures
- The cluster receives an early stage support from regional funds

### **Weaknesses (Internal to RDC)**

- Weaknesses from inexperienced facilitator in collaborative environments
- Weaknesses from not targeted cluster orientation
- There is a lack of international context
- There is a low access to capital
- There is no experience of transferring research to innovation
- There a shortage in skillful marketers

### **Opportunities (External to RDC)**

- Opportunities from expanding to emerging markets
- Opportunities from entering into new markets with new products

There is an opportunity to attract highly qualified people  
Opportunities to strengthen the cluster through adjustments in public policy mechanisms  
Opportunities for the RDC to be on the leading-edge of emerging areas of research

### **Threats (External to RDC)**

Threats from low internationalisation activities  
Threats from the devalue of research results  
Threats from low IPR protection  
There are structural barriers with regard to foreign investment  
Competitive clusters are advancing faster into the market

The outcomes of SWOT analysis, in activity 1, should be interpreted in terms of training need questions using the following paradigms<sup>5</sup>.

### **Training need outcomes derived from strengths**

How could capture the good practice and expertise that already exists in the RDC?  
How could build on the strengths, skills and knowledge already in the RDC?

### **Training need outcomes derived from weaknesses**

What skills, knowledge or behaviours could help address the identified weaknesses?

### **Training need outcomes derived from opportunities**

What skills, knowledge or behaviours that could help an RDC make the most of the available opportunities?

### **Training need outcomes derived from threats**

What skills, knowledge or behaviours could help to manage and overcome the identified threats?

#### 4.3. Key success factor analysis of RDCs

The definition of key success factors and barriers to RDC development is the source of counterpart training measures that describe the training needs. A key success factor is a performance area of critical importance in achieving consistently high productivity. There are at least two broad categories of key success factors that are common to virtually all organizations: business processes and human processes. Both are crucial to building great organizations.

To some extent, every human process is a key success factor. Human processes are constantly evolving to fit new technologies and changing circumstances, but every once in a while, major shifts occur that dramatically change what's required in each of

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<sup>5</sup> NCVO Training needs analysis, <http://www.skills-thirdsector.org.uk>

the key success areas. Such a shift is the transformation from the industrial age to a knowledge-based economy in a global marketplace.

The importance placed by RDCs adopting adaptive to changes strategy types on their strategic posture is described in the following key areas for RDC success:

***a. Preparation of framework/internal organization***

The research cluster training needs an ideological framework to exist and act within. Therefore, the definition and correlation with other policies, and especially the implementation in the regional strategy, are to be clearly defined. In this phase, a definition of short-term, mid-term and long-term objectives, tasks and activities must be put into place, such as the definition of the responsible body/legal entity, the establishment of a project team and advisory/governance board, and the information and communication strategies.

***b. Financing***

At initial stage RDCs should have sufficient budget to conduct significant projects without seeking separate funding: well-funded clusters are more likely to pursue certain objectives, including spin-off promotion, technical training and infrastructure projects. Often a cluster is initially planned and co-funded by the regional authorities, but afterwards it should be self-sustainable.

***c. Co-operation projects***

From the beginning, first concrete and visible projects should be identified: of course in our specific case the type of projects can deal specifically with the area of R&D, but also production, logistics, qualification, others. Moreover, clusters should initiate, foster and support cooperation among companies, universities, public bodies and R&D organizations.

***d. Marketing and PR***

Marketing and PR can strengthen the involvement of the existing participants and also attract new members to join the cluster. These activities should, therefore, be carried out on a regular basis.

***e. Internationalization***

RDCs should support their members during internationalization activities, and be opened for further international expansion. Access to international events, participation in international projects and the setting up of network activities are just some of the actions to be considered.

The methodology is recommending the transformation of outcomes of the SWOT analysis into distinctive key success factors and barriers to for RDCs development. Some examples are:

**An example of key success factors for preparing the internal management process is:**

- Strategic and operational orientation in managing the cluster into the market

- Operational processes for cluster management
- Monitoring cluster development by comparison with the business plan (target actual comparison)
- Business plan as a starting point for scenario construction and further development of the cluster
- Presentation of internal and external resource needs
- Opportunity to review the cluster concept critically from the entrepreneurial point of view and follow up.

**Examples of barriers to RDC marketing process are:**

- Large technology vendors are preventing market induction
- Regulatory environments create obstacles to market entry

In activity 2, the consolidation of regional reports will synthesize all key issues related to the success of RDCs and the barriers to their development. Although key success factors are important developing guidelines could be very general when we have to describe them in terms of skills required to achieve the required levels of success in RDCs. Furthermore KSF describe actions that spread widely into RDC’s organisational structure.

In order to relate key success factors to required skills and training needs, these factors must be expressed in terms of key success factors as RDC processes. Processes are logical sequences of tasks to perform an RDC required operations. An example of interlinking a SWOT component with key success factors is presented in the following table.

SWOT analysis component	Key Success Factors / RDC processes
Shortages in internal planning skills	<ul style="list-style-type: none"> <li>• RDC orientation planning</li> <li>• RDC operational planning</li> <li>• RDC performance evaluation</li> </ul>

**Table 2. SWOT component to RDC processes**

**4.4. Defining the gaps in RDC management skills**

The needs assessment is a perpetual study of the gap between the current and the desired level of managerial skills and everyday work practices to transform the RDC into a success. It involves assessing the needs at every level of the research-driven cluster (RDC): the group/cluster level; the firm/university level; the process level; the individual level. The survey is done based on contemporary data collection methods. In addition, the data patterns among the cluster members would be analysed with statistical software applications so that a clearer picture emerges on the current state of the needs. The quantitative study is complemented by a qualitative assessment. The qualitative survey is done mainly as a desk research and focus group analysis, and

interviews with the team experts. The needs identified at each area present valuable information for organizing a curriculum for management training at the RDC level.

The INNOSEE strategy for training needs assessment follows a hierarchical approach to finalize the needs for RDC training. The hierarchy starts with the definition of strengths, weaknesses, opportunities and threats for RDC following a synthetic approach from the desk research in the target regions. This synthetic approach will result in key factors and barriers for RDCs. Then, these key success factors and barriers will be related to processes and skills that required to successfully managing these processes.

The survey will actually test bench these relation among KSFs, processes and skills. The focus groups will validate and fine tune the skill matrix for RDC training, which in turn will be finalized in the workshop. The final set of required skill for managing or implementing each process will guide the training implementation. Such key success factor and barrier will be related to RDC processes which in turn will be related to skills that need to be acquired by RDCs. An example survey template, of activity 3, is illustrated in table 3.

<b>Key success factor / RDC processes</b>	<b>Learning need (skills)</b>	<b>Current Existing Skill Yes/No</b>	<b>Level of significance 5 –highest significance 1-Lowest Significance</b>
<b>RDC market definition</b>	Be able to position RDC products		
	Be able to segment market targets		
	Be able to target NICHE markets		
<b>Key success factor / RDC processes</b>	<b>Learning need (skills)</b>	<b>Current Existing Skill Yes/No</b>	<b>Level of significance 5 –highest significance 1-Lowest Significance</b>
<b>Initiating the RDC</b>	Designing the role and responsibilities of RDC facilitator(s)		
	Setting goals and mutual benefits for RDCs members		
	Setting financial agreements		
	Establishing IPR guidelines		
	Designing the operational structure of RDC		
<b>Key success factor /</b>	<b>Learning need (skills)</b>	<b>Current</b>	<b>Level of</b>

<b>RDC processes</b>		<b>Existing Skill Yes/No</b>	<b>significance 5 –highest significance 1-Lowest Significance</b>
<b>Formulating the RDC orientation</b>	Exploit knowledge through renew portfolio of activities		
	Integration of technologies in existing product or service lines		
	Exploit research to develop new products and services		
	Access to new and emerging markets		
<b>Key success factor / RDC processes</b>	<b>Learning need (skills)</b>	<b>Current Existing Skill Yes/No</b>	<b>Level of significance 5 –highest significance 1-Lowest Significance</b>
<b>RDC communication</b>	Setting automated forms and workflow procedures		
	Establishing communication inflows among each members and the facilitator		
	Technology watch tools and methods		
<b>Key success factor / RDC processes</b>	<b>Learning need (skills)</b>	<b>Current Existing Skill Yes/No</b>	<b>Level of significance 5 –highest significance 1-Lowest Significance</b>
<b>RDC internationalisation</b>	Networking with global research clusters		
	Networking using social media		
	Networking with global market networks		

**Table 3. RDC process-skill matrix**

In **activity 4**, the skill gap analysis will be used to identify the learning needs in terms of:

1. Gaps between current, existing skills and needed skills
2. The critical skills needed that receive the highest significance

A critical skill is one that, if not present, results in a process not being completed satisfactorily.

By applying skills gap analysis across RDCs it is possible to find out which skill and knowledge shortfalls needed to counterpart with training. It is then possible to target training resources on those necessary skills that require the most attention. This should result in the optimal use of resources in terms of improving the overall performance of RDCs.

#### 4.5. Main areas of RDC training needs

The main focus areas of a needs assessment of an RDC are related to both their management practices and the work of every member of a cluster, as well as methods to coordinate both within, and across the firms. As a result, the needs assessment would present a clear idea of what is to be achieved by the RDC given the current situation, and how the cluster has to change after the needs are fulfilled. In activity 4 needs assessment should be exercised at each of the below-mentioned levels relating the following RDC processes with relative skills:

- Training needs at the level of the RDC cluster management
- Training needs at the level of participating organizations
- Training needs in the area of technology and market watch and foresight
- Training needs in the area of technology learning and transfer
- Training needs in the area in the area of innovation management
- Training needs in the area of innovation marketing and promotion
- Training needs in the area of IPR management
- Training needs in the area of innovation funding

#### **1. Identifying training needs at the level of the RDC cluster management:**

- a. Planning the RDC development: e.g., are there ways to reduce costs by making the research unit more involved? Is there a need to expand the cluster? More generally: where we are and where we want to be in 1-2-3 years? How much time goes to planning and strategy building VS. everyday activities?
- b. What motivates the cluster management?
- c. How to communicate the goals set in front of a cluster down to the lowest company level?
- d. Feedback mechanisms and peer reviews between the cluster management: do you get advice from your peers on running your own firm? How do you coach your workers, and how do you motivate them to align their goals with the goals of the cluster/firm?
- e. Understanding of the shared resources among the firms: local and international marketing, research, data management
- f. How to run a cluster management meeting?
- g. How to write a letter of intent on behalf of the cluster and how to coordinate the letter among the cluster members?

- h. How to identify new cluster members, e.g. local start-ups, university start-ups, beneficiaries from other EU programs, such as Competitiveness Program.
- i. How to give effective presentations?
- j. Is there a need to enter the social media to find new markets for the cluster?

## **2. Identifying training needs at the level of participating organisations**

- a. How to write a successful business plan?
- b. How to implement a business plan?
- c. Apart from the financials, what is the HR policy for motivating employees?
- d. What are the team building practices?
- e. Internal (within-firm/within-cluster) and external (classic) customer care
- f. Communicating management issues to the employees so that they are aware why management has taken those decisions; How much time does management spend on communicating their own problems to employees? How much time they devote / How often they organize specific formal or informal meetings to discuss the within-firm employee needs?
- g. Is there a clear-cut career ladder in the firm? What are the methods to climb up the ladder?

## **3. Identifying training needs in the area of technology and market watch and foresight**

This area builds capacity to understand the current market of the cluster in a more comprehensive way. In addition, it presents a chance to potentially enter new markets.

- a. How the cluster manages relationships with subcontractors – both at cluster level, and most importantly, at the level of the organizations
- b. Can we introduce more competition on the subcontractors level? What is the power of the subcontractors? Could we extract a cluster discount for their products/material inputs? Can we attract / is there a need to attract a member of the cluster in the downstream segment of the value added chain? How to identify the new potential partner?
- c. What is the size of the cluster? Is there a need to expand to take a better advantage of the economies of scale?
- d. Who are our target groups? How to understand them better? Has any of the cluster members performed any rigorous client research? If no, how to organize the pilot study? If yes, how to improve it and follow up on customer relations? Do we know how we deliver to customers?
- e. Who are our competitors both at the cluster level and at the organizational level? How to differentiate our products so that we make our demand more inelastic? Do we need to share marketing costs? Can we simultaneously expand on international markets?
- f. Is there a need to downsize labor and reorganize to save costs we can share? What are those costs? E.g. can we outsource within-firm administrative staff to act on behalf of the cluster and lay-off the redundancies?

- g. How often we introduce new products relative to our main competitors world-wide?
- h. How to target a new market segment? What are the demographics of this segment? Can we share costs to expand on this segment?
- i. Do we need to diversify our products so that we capture the entire demand curve of the broader product? That is:
  - Are we aware of the within-cluster differences in the product qualities across firms?
  - Do we know the consumer willingness to pay along the quality ladder?
  - Can we coordinate the firms within the cluster so that based on the superior technology of one of the firms they serve the upper end of the market where consumers are willing to pay more, while the firms with the inferior technology serve the lower segments? Thus the entire cluster would be able to serve the entire demand curve instead of focusing on one of the segments only.
- j. How do we make use of the social media to benefit the development of new markets?

#### **4. Identifying training needs in the area of technology learning and transfer**

- a. We start by asking where the cluster management thinks they stand on the technology ladder relative to their main competitors identified in p. 5. Then, is there a need for a new technology?
- b. What are the key technologies for the cluster?
- c. How to research the availability of a new technology?
- d. How to involve the research unit more actively in the process of technology hunt? Do they cooperate with some leading international university on a project related to our desired technology?
- e. How to contact and negotiate a new technology in the post-crisis environment? Could we extract a cluster discount?
- f. Can our research unit (RU) develop the desired technology? Do we know the contact person within the RU who is aware of the costs to develop such a technology? Can the research unit develop it cheaper than the leading international research units due to their own labor costs advantages? If it cannot do it cheaper, how can the research unit benefit from a partnership with a leading RU in this area? Can we outsource to a leading RU to develop or to buy an existing technology?
- g. Do we know what are the net benefits of introducing a new technology VS the net benefits of staying with the older technology? How to identify the costs and benefits of each choice?
- h. How to communicate the needs of a technology transfer to the government and supranational organizations to make technology transfer easier?

#### **5. Identifying training needs in the area in the area of innovation management**

- a. How is innovation created within each company?
- b. Can we improve by outsourcing innovation to the cluster level and at the same time keeping the best innovation leaders within the cluster?

- c. What are the shared innovation resources among the cluster members?
- d. Do we keep an eye on the university graduates for potential new stars in the cluster?
  - Are we in contact with the university authorities to make the curricula in line with our staff needs?
  - Is the university interested in paying visiting teachers from the management of the cluster?
  - Are the students interested in having a person from the cluster teach an open talk or two per semester about the new prospects in the cluster development?
  - How do we get feedback from senior students about the cluster strategy/marketing/management?
  - Are we interested in having some of those senior students as paid interns during the summer or immediately?
- e. Do we know the potential areas which need reorganization at the process level?
- f. Do we know the potential areas which need reorganization at the product level?

**6. Identifying training needs in the area of innovation marketing and promotion**

- a. Do we have an innovation department?
- b. Do we need an innovation department?
- c. How would this innovation department look like?
- d. Can we establish an additional innovation body with the cluster that does the innovation marketing for each of the cluster participants? What would be the costs and benefits of such action?
- e. Can we team up and train existing employees of the participating companies to do the innovation at the process and product level for the entire cluster?
- f. Would those people feel they are promoted?

**7. Identifying training needs in the area of IPR management**

- a. Do we know the essence of the current patent war between the technology giants? (this is optional as this is a bit out of the immediate circle of needs assessment but could serve as a good motivating example for the next item):
- b. Do we know the benefits of having a patent over our technology?
- c. Do we know how to file for a patent?
- d. Assessment of the benefits of having a patent on a cluster level VS the benefits of having it individually?
- e. Do we know the local authorities responsible for filing a patent?
- f. Can we identify IPR representatives both on local and EU level so they protect us against the costs of a patent war with a competitor?
- g. How do we manage the people responsible for building a new technology within the university/RU?

- h. Is there a need to motivate the people not to sell the IP to someone else with a legally binding contract specifically directed to their rights and duties in this respect?

#### **8. Identifying training needs in the area of innovation funding**

- a. Are the firms within the cluster and the RU aware of the workings of the National Innovation System?
- b. Do we know who the local institutions that support innovation are?
- c. Do we keep regular contacts with them and stay updated on new programs?
- d. Have we ever applied for innovation financing?
- e. What were the difficulties?
- f. Can we learn how to lobby for policy measures to the local authorities on behalf of the cluster so that they make the procedures easier?

#### 4.6. Focus groups for orientation and validation of training needs

The areas in the previous section constitute the umbrella, which could potentially identify the training curriculum within the RDC. Within each of those need branches, a more detailed investigation agenda could be developed so that the needs are assessed in a more comprehensive way. The questionnaires would serve as the basis of a quantitative analysis of the needs within the cluster. In addition, the Focus groups analysis would present an opportunity to complete the quantitative research with a quality assessment. This invaluable add-on to the desk research and the quantitative study is suggested to proceed in the ways detailed below:

1. Contact and gather representatives from the clusters after the quantitative study
2. Make them write down their ten most important training needs. They should write *specific, not general* needs. A good example: finding a database of potential partners abroad; engaging the university/research unit at the cluster do the search; giving the research unit a proper feedback so that they are more helpful next time. A bad example: I need training, I need team building, I need marketing skills. Avoiding general topics would focus the needs training much more on the actual problem within the cluster.
3. List the non-repetitive needs on a board/flipchart
4. Use voting to determine the most common needs and prioritize according to the number of votes
5. Determine the desired outcome from fulfilling those needs
6. Formulate the needs as goals, give a specific and attainable deadline for achieving those
7. Let the representatives suggest ways to achieve those goals
8. Follow up and let managers know the results from the study

Once have identified learning needs across RDCs, they need to be analyzed and prioritized. Areas to consider when prioritizing are:

- What impact will developing these skills have on RDCs performance?

- Which skills needs are the most important to our long-term success?
- Which skills needs are the most urgent?

Another issue that should be investigated in the survey and validated in the focus group activity in each region is the need for developing individual learning path that complement the generic “RDC manager” profile training, by answering to the following question:

- Is there a need to specialize RDC training into individual training paths for RDC specific expert areas, such as innovation, marketing finance?
- If such a need exist, what are the individual skill components that assembly the individual learning path?

In activity 5, the research team will finalize their regional training need reports, indicating the regional training needs as a synthesis of:

- Survey quantitative analysis
- Forum – expert opinion qualitative analysis

## **5. Conclusions. Recommendations for a training curriculum in RDC management**

In activity 6 all regional training need analysis reports will be consolidated into the InnoSee analytical training need report, which will include:

- Learning aims
- Target group or groups (in case of individual learning paths)
- Goals based on the results of SWOT and KSF analysis
- Training needs in relation to these goals

In the WP3 workshop the InnoSee training needs documents will be exemplified, endorsed, and explored in respect to recommendation provisions for the forthcoming work packages. The workshop will process the following two issues:

- Discussion and endorsement on the analytical report on training needs
- Recommendations regarding the training need implementation agenda for the forthcoming work packages, with focus on the training curriculum. These issues relate to the design of training material and pre-investigation of the skill validation process. Thus, the training design recommendations should be concentrated in the following areas:

1. What a trainee will be able to demonstrate by the end of the training session?
2. What training resources and activities will be used to facilitate learning?

Except the formal learning through academic institutions there are two more important learning types.

**Non-formal learning** consists of learning embedded in planned activities that are not explicitly designated as learning, but which contain an important learning element. Non-formal learning is intentional from the learner’s point of view.

**Informal learning** is defined as learning resulting from daily life activities related to work, family, or leisure. It is often referred to as experiential learning and can to a certain degree be understood as accidental learning. It is not structured in terms of learning objectives, learning time and/or learning support. Typically, it does not lead to certification.

Both types of learning are received through experience and non-certificate training courses. While this decision belongs to the skill validation phase of learning there is a significant impact of the decision on the design of training material. The need for validation of non-formal and informal learning should be a discussion issue among workshop participants and should be pre-investigated as an important recommendation issue by answering the following critical questions:

1. Is there a need to validate informal learning in RDC management and non-formal learning gained through the InnoSee learning process?
2. What will be the consequences of such a decision to the training material design?

In activity 7, the workshops conclusive statement will have two main outcomes:

1. The endorsed of InnoSee analytical report on training needs
2. Recommendations to forthcoming tasks in designing the training curriculum