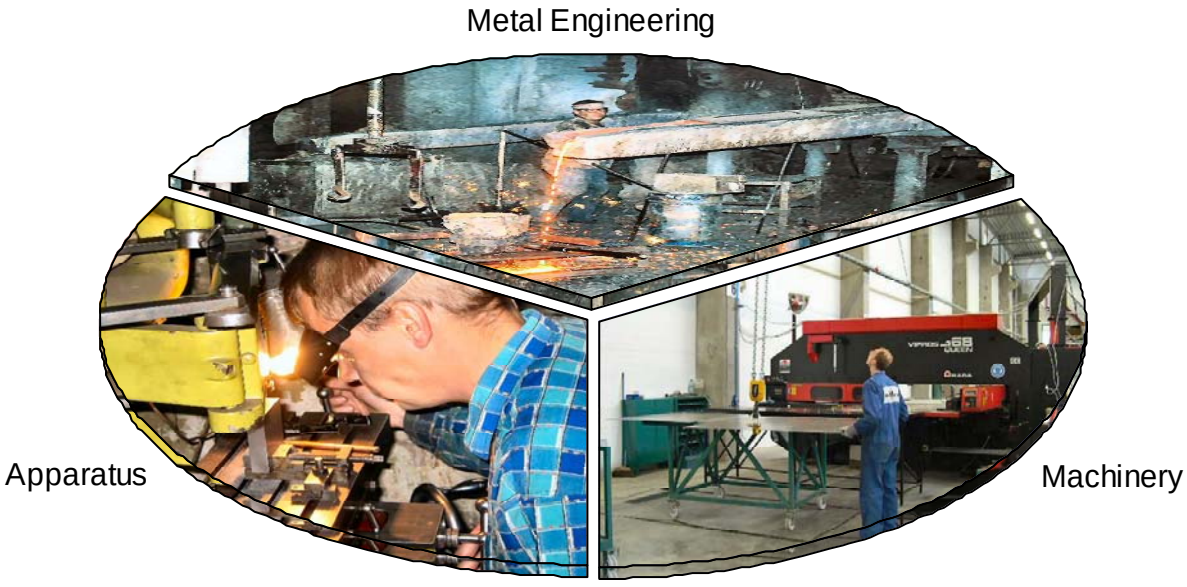
Education and Culture

Leonardo da Vinci

INNOMET II

Integrated human resources development and monitoring system for adding innovation capacity of labour force and entrepreneurs of the metal engineering, machinery and apparatus sector

INNOMET II STRATEGY FOR 2005-2010



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Terms

Database shall mean implemented relational database working on SQL-engine containing test-data.

INNOMET system shall mean the integrated on-line advisory system for educational and industrial needs in the field of engineering, which consists of a Database, Business Logic and User-Interface. Business Logic is a part on Computer Program realising functionality for business activities like "adding and editing person's data", "selecting subset of workers correspondent to the query criteria". User Interface means a part of Computer Program allowing to the Program User access to the Business Logic via www. All parts of INNOMET system software will be implemented based on commercially available software running on a standard PC-platform.

Intellectual Property Rights shall mean rights on works, software, databases, inventions, know-how, industrial designs and all other results, except Trade Mark and Domain Name rights.

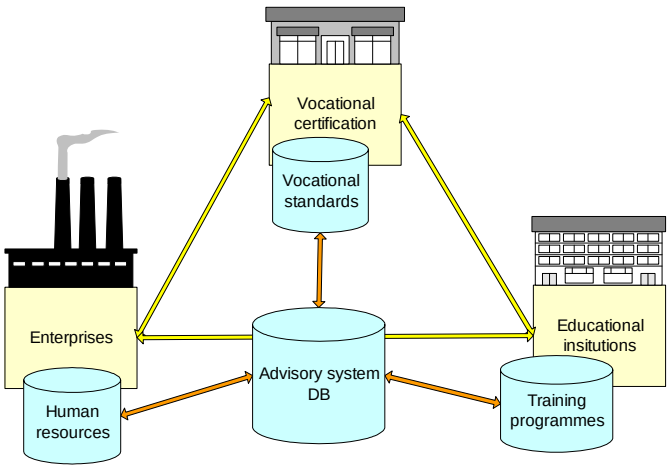
National Agency shall mean the National Agency Foundation for Lifelong Development Innove.

Background

Globalisation is a catchword of 21st century, characterised in borderless information spreading via Internet and creation of new economic consortiums. Simple management scheme "manufacturer — trade mark owner — wholesaler — reseller" has changed to "subcontractor – contractual manufacturer – trade mark owner – wholesaler and distributor" multi-way realisation. In manufacturing it causes also changes in qualification structure and characteristic skills of labour force.

Enterprises and trade unions are interested in certain vocational standards and specifying skills level of employees. Academic world and vocational education providers cannot react to these changes correspondingly without knowing the real needs of industry world. Hence the gap between the needs and reality of labour force structure and quality exists.

By stimulating contacts and cooperation between the different factors both in business and educational systems, synergies can be successfully achieved to realise the abovementioned main criteria.



Network monitoring of educational and industrial needs

INNOMET is hence an acronym for a project originally funded in 2002-2004 by Leonardo da Vinci II and follow-up project initiated in the end of 2004 and funded during 2005-2007 (18 months from October 2005).

Objective of this document "Background for INNOMET II strategy for 2005-2010" is to provide background information and general input for each Partner region to prepare their short strategic goals of INNOMET up to 2010, including key-aspects like commercialization of INNOMET, strategic network partners and funding. Strategy paper itself will be written by the end of 2006 and presented as one of the results of the current project.

From INNOMET I to INNOMET II:

INNOMET I 2003-2004:

- developed INNOMET **database test-version** for higher and vocational education institutions, companies and other sector-related organisations
- INNOMET testing results from 15 enterprises and educational organisations (tested in selected professions, qualifications and skills of work-force – "blue-collar" level)
- Recommendations on the knowledge structure of the qualified labour force presented to higher and vocational education institution (report)
- INNOMET web-page in English and national web-pages in every partner country and language
- National seminars, working groups and one trans-national seminar organised in Estonia to present the INNOMET database model and promote dialogue in the sector

INNOMET II follow-up 2005-2007 (18 months)

- To further develop and **realise the unified and integrated basis** (based on the test-version of the INNOMET system) for the comparable workforce performance evaluation in engineering industry in terms of local and European needs
- to develop a specific methodology how to **evaluate and measure qualifications and skills in the frame of the INNOMET system** in human resources focusing on the qualifications and skills levels in of work-force (blue-collar level) and **additionally engineering level** of the companies of the sector (1) and on the other hand qualifications need to be defined and evaluated in terms of educational programmes and re-training courses – what kind of skills and qualifications each courses give. The key is to combine it in the INNOMET information system **(please see the Annex 2)**
- to develop **the ontology of terms and definitions of INNOMET**, including the **glossary** of key words of the INNOMET system (please see the Annex 3) in order to **compare skills and qualifications**. The aim is to develop a common and trans-nationally wide European understanding and definitions of the terms used (especially skills and qualifications) in the INNOMET system in 7 countries of the project consortium.
- **To provide further recommendations** on the knowledge structure of the qualified labour force presented to higher and vocational education institution and to develop **sample re-training courses in the field of mechanical engineering** based on INNOMET system outputs.
- Sample re-training courses will be also developed for engineering level with the help of the INNOMET (university level).

Objectives of the follow-up project in 2005-2007

General objective of the INNOMET II project is development and **realisation** of the unified and integrated basis (based on the test-version of the INNOMET system) for the comparable workforce performance evaluation in engineering industry in terms of local and European needs. The primary objective is to increase the responsiveness of education institutions to business demands and to improve **the access** of vocational and higher educated specialists into labour market.

For that purpose the pilot version of the integrated **information system** has been developed **in 2003-2004** for the educational and industrial needs in the sector (hereinafter **INNOMET system**), which includes the database test version (existing educational opportunities – different levels of study programmes; industrial needs for human resources based on the employee qualification standards). During this project a structure and test-version of the INNOMET system has been developed by September 2004. English is the common language and respective versions in EST, HUN, FIN, SWE and IT). Please see the annex 1 for detailed information.

The **INNOMET system,** a **database test-version has been introduced** as an open access type system, which structure includes three main parts: 1) all the education institutions, study programmes, re-training programmes and links to e-learning platforms of the sector; 2) private sector - human resources and labour force demand taking into account present situation and strategic development of manufacturing sector, and 3) existing employee qualification standards and qualification awarding process. Partners have developed a common structure of INNOMET system; however, each partner is responsible for the further development, management of INNOMET system and the scope and size of the INNOMET in their regions in the future.

The **INNOMET system (currently test-version)** improves the links and cooperation between the existing vocational and higher education system with private sector demand for labour force. Through **sectoral interaction and cooperation**, the objective is to improve and complement the existing **study and training programmes** (higher and vocational education) and improve **access to** re-training, life-long learning and e-learning platforms of the sector, as well as to labour market.

The current follow-up project "INNOMET II " is needed to **further develop and implement** the test version of the INNOMET information system (please see annex – INNOMET demo on CD) and to disseminate and valorise the results of INNOMET I in the frame of existing and new partners (2 new partners have been involved from Latvia and Portugal).

In the 1st phase of the current INNOMET II follow-up project a work package will be introduced in order to develop a methodology how to **evaluate and measure qualifications and skills of work-force and engineering level in the frame of the**

INNOMET system (please see the Annex 2) - focusing on the qualifications and skills levels in human resources of the companies of the sector (1) and on the other hand skills in terms of educational programmes and re-training courses – what kind of skills and qualifications each courses give (2) and how to evaluate them. The key is to combine it in the INNOMET information system (linkable database with search engines – please see the annexes).

Secondly, the follow-up project aims to develop **the ontology of terms and definitions of INNOMET**, including the **glossary** of key words of the INNOMET system (please see the Annex 3). The aim is to develop a common and trans-nationally wide European understanding and definitions of the terms used in the INNOMET system in 6 countries of the project consortium.

Thirdly, the core objective of the project is **the realisation of the INNOMET system** - from test version to the dynamic working system - among the network partners (please see the www.innomet.ee/innomet for INNOMET network partners) in all partner areas by 2007 – Estonia,

Sweden (Stockholm area), Hungary (Budapest area) and Italy (Piemonte area) and to test and valorise the system in new partner areas, such as Portugal and Latvia.

The **valorisation strategy** of the projects focuses on all different levels – organisational, partner group, regional, educational, sectoral, national and trans-national level (please see Annex 4 for detailed dissemination plan). Number of enterprises from each partners' region are selected to further test the INNOMET system in order to gain the widest possible variation of the elements of the INNOMET open-access environment. It is expected that this will generate interest and result in press releases to local and international media.

Demonstrations in form of seminars and meetings will be disseminated to other interested parties. At national level, all partners will organise seminars and one trans-national seminar will take place in Estonia in 2006.

Primary target groups of the project are the following:

1. Vocational trainers, training bodies, national and regional authorities in education – are final users of the project result (the INNOMET system) in composing study programmes and re-training courses linked to INNOMET, providing information to companies about the training possibilities via the INNOMET system (please see Annex 1 for INNOMET demo presentation);
2. Students of vocational and higher education institutions (INNOMET database access point; tool for looking for human resources related information, trends and analysis, cooperation with companies),
3. Enterprises and employees of the metalworking, machinery and apparatus sector – human resources evaluation and management (evaluation of skills and mapping re-training needs in order to cooperate with the schools),
4. Unemployed people seeking for job possibilities – system will be linked to the different employment and job-seeking databases.

The specific aims of the follow-up project INNOMET II are the following:

1. to develop a specific methodology how to **evaluate and measure qualifications and skills in the frame of the INNOMET system (please see the Annex 2)** - focusing on the qualifications and skills levels in human resources of the companies of the sector (1) and on the other hand qualifications need to be defined and evaluated in terms of educational programmes and re-training courses – what kind of skills and qualifications each courses give. The key is to combine it in the INNOMET information system (linkable database with search engines – please see the annexes). Specific comparative analysis will be also carried out (by the Italian partner – IAL Piemonte) to compare the proposed evaluation methodology with the existing best practices of human resources evaluation in Southern European area (France and Italy).
2. to develop **the ontology of terms and definitions of INNOMET**, including the **glossary** of key words of the INNOMET system (please see the Annex 3) in order to **compare skills and qualifications**. The aim is to develop a common and trans-nationally wide European understanding and definitions of the terms used (especially skills and qualifications) in the INNOMET system in 6 countries of the project consortium.
3. the core objective and aim of the project is the further development and realisation of the INNOMET system - from test version to the dynamic working system - among the network partners (please see the www.innomet.ee/innomet for INNOMET network partners) in all partner areas by 2007 – Estonia, Sweden (Stockholm area), Hungary (Budapest area) and Italy (Piemonte area) and to valorise the system in new partner areas, such as Portugal and Latvia.

4. **To provide further recommendations** on the knowledge structure of the qualified labour force presented to higher and vocational education institution and to develop **sample re-training courses in the field of mechanical engineering** based on INNOMET system outputs.
5. To further develop social dialogue concerning existing **vocational and higher education of the sector** – through the development of the INNOMET information system, common working groups, one national seminar in each partner country and one trans-national seminar taking place (in Estonia).
6. To further develop INNOMET system, and the Internet site in the languages of project partners – EST, ENG, SWE, IT, HUN and the new partner languages of Latvian and Portuguese. The structure and elements of the INNOMET system are developed in cooperation; however each partner is responsible for further development and implementation of INNOMET system and database in their region.

Ownership and use of rights

Each Partner may maintain the relevant Pre-Existing Right(s) in the country of its business. EML may maintain the pre-existing rights in the countries where no partner has its business.

Trade Marks and Domain Names

Each Partner may apply to obtain Trade Mark INNOMET protection by filing a national Trade Mark Application in the country of its business, and TUT and EML may apply for International Trade Mark INNOMET in the countries where no partner has its business (incl Finland). No Partner may file the Community Trade Mark application INNOMET. TUT and EML have jointly applied for the INNOMET Trade Mark registration in Estonia (application No M200600211 27.02.2006).

Each Partner may apply to obtain country-code Top Level Domain in the country of its business (.hu, .it, .lv, .pt, .se).
In the countries where no partner has its business, the Co-ordinator (EML) may apply to obtain country-code Top Level Domain Name. EML may to obtain .eu Top Level Domain and country-code top level domain name in Estonia.

Intellectual Property Rights

The Beneficiary (TUT) has the right to grant the Commission and the National Agency the right to make free use of the results of the Project as it deems fit, provided it does not breach its confidentiality obligations or existing industrial and intellectual property rights.

EML as Co-ordinator of the Project provides each Partner all deliverables and documentation and needed for carrying out the Project royalty-free.

TUT and EML shall seek to agree between them arrangements for maintaining and using such rights in Estonia on a case-by-case basis.

Each Partner shall adapt its own detailed dissemination plan of the Project results. EML is responsible for co-ordination of the general dissemination plan and evaluation of detailed dissemination plans of each Partner in the beginning and throughout the project development.

In addition, each Partner shall ensure that it can obtain and maintain such intellectual property rights and fulfil the obligations under the Agreement n° PP 169001 notwithstanding any rights of its employees, subcontractors or other persons engaged in the Project.

The Co-ordinator (EML) shall be responsible for management and development of INNOMET database in Estonia after "Leonardo da Vinci" funding.

The Co-ordinator (EML) is responsible for maintaining a web site of the Project after "Leonardo da Vinci" funding, updating information on Project activities and development.

Publications

Any Partner may publish articles or information without any notifications to the other Partners and without any other Partners' consent.

For avoidance of doubt it is stated that unless otherwise agreed between the Partners no Partner shall have the right to publish or allow the publication of data which includes know-how of another Partner or confidential information related to the Project even where such data is amalgamated with such first Partner's information, document or material.

Confidentiality

During the term of the Project and for a period of five (5) years thereafter, the Partners shall treat as confidential any information which is designated as proprietary by the disclosing Partner by an appropriate stamp, legend or any other notice in writing, or when disclosed orally, has been identified as confidential at the time of disclosure and has been promptly (thirty (30) days at the latest) confirmed and designated in writing as confidential information by the disclosing Partner.

The Partners agree not to use the Confidential Information for their own benefit or for the benefit of their employers, affiliates or assigns.

Innomet Eesti

EML and TUT have initiated INNOMET EESTI a Project related activity that is aimed at implementation the Project results in Estonia. EML and TUT affirm that INNOMET EESTI does not prejudice to confidentiality obligations and intellectual property rights resulting from the Project.

With the INNOMET as a transparent and integrated system it is possible to compare and value skills and qualifications both in the industry and in education programmes (outcomes of learning) in all different level and therefore enable transfer of competencies among countries, regions and also among sectors in the longer term.

INNOMET II strategy for 2005-2010 – key-objectives for partner regions

Estonia:

1. Tallinn University of Technology
2. Federation of Estonian Engineering Industries
3. Tallinn City Enterprise Board

In Estonia 2 parallel pilot projects are carried out:

National INNOMET II project (18 partners: 10 schools from different levels, 75 companies, 370 workers will be trained for piloting the system; very short training courses in association with educational institutions – flexibility!, retraining certificate will be given). Budget: ca 500 000 EUR	**Current Leonardo da Vinci project:** **- international/ trans-European transfer and comparison**

Current LdV INNOMET II project purpose:

- to support INNOMET Estonia with international know-how in the frame of INNOMET Leonardo;
- European comparability of professions and skills for international labour market;
- user manual;
- evaluation methodology

Main strategic purpose of the project is to obtain basis for:
How to evaluate skills?
How general or specific it has to be in different countries?
Universality?

By the middle of 2006 commercializing of INNOMET in Estonia will be decided and clarified.

Hungary:
(BME – Budapest University of Technology and Economics)

- useful glossary (definitions, synonyms);
- useful IPS;
- research project for further development strategy;
- IT system running at BME (for network partners, for future partners);
- IPS installation in labour centres (for organizing the ad hoc courses for proposing new certifications).

Sweden
(KTH – Royal Institute of Technology):

- education and competence transparency (education that develops);
- developing clear understanding of industrial needs today.

Italy
(IAL – IAL Piemonte / Training Institute for Workers of Piemonte):

- right timing for the trainings (during the INNOMET I offered courses were wrongly timed);

- using INNOMET model at international and national level;
- using INNOMET in IAL.

Portugal
(Alfamicro):

- INNOMET II dissemination in Portugal (network development);
- To go further: how can we reach different levels?
- Who can offer the knowledge (education and training courses)?
- INNOMET system in national language;
- Field work
- Benchmarking.

Latvia
(LMA – Association of Mechanical Engineering and Metalworking Industries of Latvia):

- database in internet (schools, companies; practising offers entered into system);
- supporting practises by companies;
- contribution of professional standards;
- improving public opinion about metalworking industries because there are high demand for specialists but young people are not interested in studying it;
- message to schools – specialists need to be prepared! (current studying programmes are old);
- INNOMET system should give an answer what industry needs at the moment.

Strategy perspectives by each region

1.How the INNOMET system is currently applied in your region? If not used, why?	
Estonia	A national project has been initiated to expand the system from machinery into new sectors as IT, Construction, Car/Automotive, Wood Industry, Electronics. The Innomet is in use in Machinery sector
Hungary	As a demo system for demonstrating what had been developed in Innomet I what can be the opportunities, functionality with IPS what are the goals of Innomet II Because the best marketing material is the on-line demo system by itself the system is being alive with the requests of companies companies requires strict authority, security and unambiguous roles and rules in the IPS, above their data with clear benefits (above data management – skills, professions) companies like "simple thing"; are hesitating to use more sophisticated (i.e. academic) tools.
Italy	The Innomet system is not used at present in our region. At the moment each type of association has invested in its own database at national level: The Ministry of Labour has an existing database concerning analysis of future needs for training and professionals in the metal-mechanic area, the Ministry of Education one concerning offer of lower and higher education, the Region Piemonte about training competences, the Province (responsible for vocational training) about offer of vocational training as well as job offers and matching. We will extend dissemination and contacts to further institutions for the InnometII project.
Latvia	-
Portugal	It is not yet applied because Alfamicro was not part of INNOMET I. We have been having discussions with industrial associations and potential partners on the training delivery system as well as potential enterprise users. It is obvious that the very limited INNOMET budget for Alfamicro covers basically dissemination and awareness. Therefore we have been investigating the possibility of obtaining funds to support a project dealing with INNOMET full application.
Sweden	Not yet applied, most companies have own systems to manage their competence development

2. ***What is the most important INNOMET system development you expect in terms of current Leonardo project?***	
Estonia	For university it is essential to have tight cooperation with industry and to know, which are expectations of industry. A good lecturer or researcher must be also a good engineer and specialists. The Innomet

	gives method and means for such mutually useful cooperation. The extent of vocational and further education courses is low, through Innomet the importance of special courses to enterprises should increase.
Hungary	Increased functionality: User account and profile management (clarified roles and rules of users) (public tours, search developments, project oriented functionalities, …) detailed and defined in the project proposal (from 14 to ~20-21) increased interactivity (project oriented database handling – i.e. filling up database without recognizing technical background) coding of language (text) oriented database – sg. to verify database helping industrial managers in competence management Increased user interface to convince the companies management about the benefits to make sophisticated data structure (questionnaires) hide in the background for a common system user
Italy	As concerns the system itself something that could produce a common 'language' for all parties concerned: school, university, vocational training and employers. The move for companies towards understanding the importance of investing in continuous training, so being able to analyze competence in the existing workforce and make forecasts for the future rather than look for the worker when the need arises. The improvement of the definition and resulting clarity of skills level could lead to better understanding for those who do not yet 'speak the competence language'.
Latvia	Simplifying in order to make system more functional for companies. Levels (1-5)
Portugal	The definition of competences and skills to support the competence management. Gathering information about SMEs skills needs in global manufacturing in the context of global digital business
Sweden	The definition of competencies and skills to support competence management In the future implement engineering concepts and their definitions within production engineering

3.*What are the most important services the INNOMET system could provide in your region? Please outline also key obstacles (eg companies low interest).*	
Estonia	The companies have enough interest, as it enables to reduce educational costs through connecting specialists of similar education needs. It serves as a salesman for academic institutions, as universities usually do not have information what all the enterprises need. On another hand, we can now estimate the need of educated people in the sector in terms of 5 years, which is important when making education and economy policy.
Hungary	Providing realistic request for educational institutes

	about companies needs for course developments Providing safe and practical background for companies for searching answers on their requests with minimal efforts Providing mere mean (useful tool) for labour centres to react on special and ad. hoc events to organise adult courses for emergent needs
Italy	The Innomet system, as previously mentioned could favour dialogue between all concerned. The interest in general is low as each sector has made big investments on its own database. Most companies do not yet possess the culture of defining future skills. We do imagine that the international Innomet database could be a very important tool for future organization of Leonardo da Vinci mobility projects.
Latvia	Industry needs for specialists: technical solution how this information is applied. Companies should insert the information whether they are opened to take students to practice (gaining practical skills). Needs for competences: how to improve studying programmes.
Portugal	Industry needs, namely for specialists. The companies have difficulties to find the training sources for specific needs and above all they would favor a system that could rate the quality of the services provided. Instead of the traditional quality assessment of courses they rather prefer to have the results achieved by the trainees and their employers. In Portugal there was no systematic system to create a visible database including the needs of companies. The current policy driven by the Technological Plan is creating this facility which we are trying to convince to take in consideration the INNOMET experience and expertise. The main obstacle has been the credibility of training sources and costs. This is changing.
Sweden	It is to be able to find a set of courses to match a needed competence profile. This demands a consistent way of defining acquired knowledge and skills by a course.

4.*Who are the network partners of INNOMET in your region now? Who would you like to involve during the project by 2007? By 2010?*	
Estonia	We have an excellent group of enterprises (belonging into EML) and about 15 vocational and higher educational organizations in sector of machinery. In 2010 we hope to cover by Innomet network engineering sectors in construction, information technology, electronics, automotive industry, wood industry – both educational

	organizations and enterprises. We have also principal support from Ministry of Education to make Innomet as an official national system possibly used in all vocational organizations in Estonia.
Hungary	Recently the same as in Innomet I We are to involve during Innomet II GTE (Association of Mechanical Engineers in Hungary) SzMSz (Federation of Hungarian Tool-producers) more companies (depends on development and testing results)
Italy	We intend to extend the involvement in the Innomet II project to other sectors. As during the previous Innomet 1 the metal-mechanic sector is not going through a very florid period, even though there is a very slow improvement. As well as trying to involve other partners in the metal-mechanic sector, we are going to present and try to involve other sectors where there is a greater need for competence analysis.
Latvia	Riga Technical College, later Riga Technical University, Agricultural University of Jelgava; companies.
Portugal	This will depend on the level of funds. We are currently working with the Automotive Sector.
Sweden	Companies collaborating with us in our three year project program for automotive industry. E.g. Scania, Haldex, Sandvik, Volvo etc. Companies in INTERREG program.

5. ***What are your plans concerning the application of the system vis-à-vis the target groups and partners in your regions (a) educational institutions (b) companies (c) third partners by 2010?***	
Estonia	The extent of vocational courses for industry is going to increase. There remains resources due to rapid demographic drop in student population between 2009-2015, to survive and use potentiality of schools and universities these need to emphasize more into offering training courses for industry.
Hungary	During project run: live IPS at BME with some users Up to 2010 installed and implemented IPS in at least on regional labour centre or in the GTE (currently non realistic) Wide range of publications and bulletins about Innomet I-II
Italy	
Latvia	
Portugal	Technical schools (ATEC), Polytechnic Institutes with learning and training courses in the Engineering Area. ATEC is the largest training organization for the automotive industry in Portugal (Auto-Europa,

	Siemens and Bosh) Member Companies of the Industrial Associations: AFIA (Association of the Automotive Industry Suppliers), CENTINFE (Technological Center for Plastic Moulds and Special Tools), APIB (Association for Rubber Products), etc. Technological Plan
Sweden	It is to make our courses for engineering master programs and industrial continuous education easy to understand and evaluate for industrial skills and competence development.

6.*Each partner has the right to apply/use and commercialize the system in (and only) in their region. How is it planned to be operated in your region after the end of the project after 2007?*	
Estonia	There is work going to find solution – to develop and maintain security the system needs certain financing. The intellectual property rights are protected by trade mark Innomet, belonging to EML and TUT, whereas TCEB has right to use it free.
Hungary	We could not consider IPS as a marketable product actually Utilisation
Italy	This would depend on the results of the Innomet II project. The Innomet project is transferable to other sectors. We would consider handing over the system to a public body who really could make great use of the system.
Latvia	LMA Till 2007.
Portugal	Alfamicro has established contacts with private and public organizations aiming at the exploitation of INNOMET II results.
Sweden	• The KTH School of Industrial Engineering and Management will announce their courses for master students and continuous education through the INNOMET system

7.*Who could be the INNOMET system manager in your region after the end of the project?*	
Estonia	A special body - Foundation INNOMET
Hungary	- BME (project run) - Regional labour centre (in case of additional development) - GTE (ideal)
Italy	If Innomet II results of great use to future Leonardo mobility projects this could be Ial within this type of project. Otherwise it could be one of the institutions that after learning about Innomet II could be interested in futher developing the project.
Latvia	Depends on INNOMET II results.
Portugal	It will depend on INNOMET II results and funding for implementation in Portugal. Most likely it will be one of

	the following models: a. Industrial Associations b. Public Institution supporting SMEs, such as IAPMEI (Institute for SMEs)
Sweden	• KTH School of Industrial Engineering and Management

8.*How is it planned to be financed in your region by 2007? Projects? Regional councils? State?*	
Estonia	Currently on national level the system is supported by European Social Foundation, local authorities, educatioanal organizations. It will be financed in future by enterprises (as annual fee) and other interested parties (Ministry of Science and Education).
Hungary	National applied research projects within BME Companies in case of live system on regional or national level
Italy	Maybe Ial through other projects, otherwise Regional or Provincial bodies of course if they understand the utility of the system and if there is a gap to fill with it.
Latvia	Educational ministry?
Portugal	We are considering two potential sources of financing: c. National Programme d. CIP (Competitiveness and Innovation Programme) to be launched by DG Enterprise.
Sweden	• It will be financed by industry and educational institutions that wants to use KTH for continuous education.

Main activities planned in order to obtain strategic results of the follow-up project in 2005-2007

Activity	Result	Medium of the result	Target groups
INNOMET strategy for 2005-2010	Strategy document (basis for further European-wide development)	Short document of milestones published on INNOMET web-site and disseminated to partners	All target groups of INNOMET –schools, companies, students, municipalities, ministries, etc. Potential new partners in Europe
INNOMET evaluation methodology (so called "expert tool" with user manual) Comparative analysis will be also carried out by the IAL Piemonte (Italy) – vis-avis the evaluation methodologies in Southern Europe	Methodology developed how to evaluate and compare skills and qualifications in the frame of INNOMET	Methodology paper, report. Integrated to the INNOMET system.	Companies, schools (network partners)
INNOMET ontology of terms and definitions for INNOMET competence management (development of definitions and common understandings for European comparability)	Structure of defined terms and keyword in the INNOMET competence management and evaluation system	Integrated to INNOMET system.	Companies, schools (network partners)
Development of INNOMET glossary	INNOMET glossary	Paper-version (report) + integrated to the internet-based INNOMET system	Companies, schools (network partners)
INNOMET system development in terms of functions and usability based	INNOMET system functions and usability developed and realised	INNOMET system prototype realised	Companies, schools (network partners)
INNOMET system testing and development in network companies	Full-scale data of human resources of 25-30 selected sample companies inserted to the internet-based INNOMET system	Data in INNOMET system	Companies, schools. *It is not publicly accessible to all levels of personal data of companies (protection of data). Public

			version includes all the general outputs and report (general qualification levels of companies, statistical analysis).
Sample re-training courses developed based on industry needs	2-3 sample re-training courses developed in the frame of engineering	Course descriptions and definitions of education outcomes of the re-training programmes (in terms of skills and qualifications)	Schools and network companies
Further development of INNOMET web-site (www.innomet.ee/innomet)	Web-site further developed, including publicly accessible parts of INNOMET system	Internet web site	All target groups and partners of INNOMET
Development of recommendations to the educational level based on INNOMET results.	Report of recommendations to the educational level based on INNOMET results.	Short report	Schools, educational policy organisations

List of contacts of INNOMET project partners

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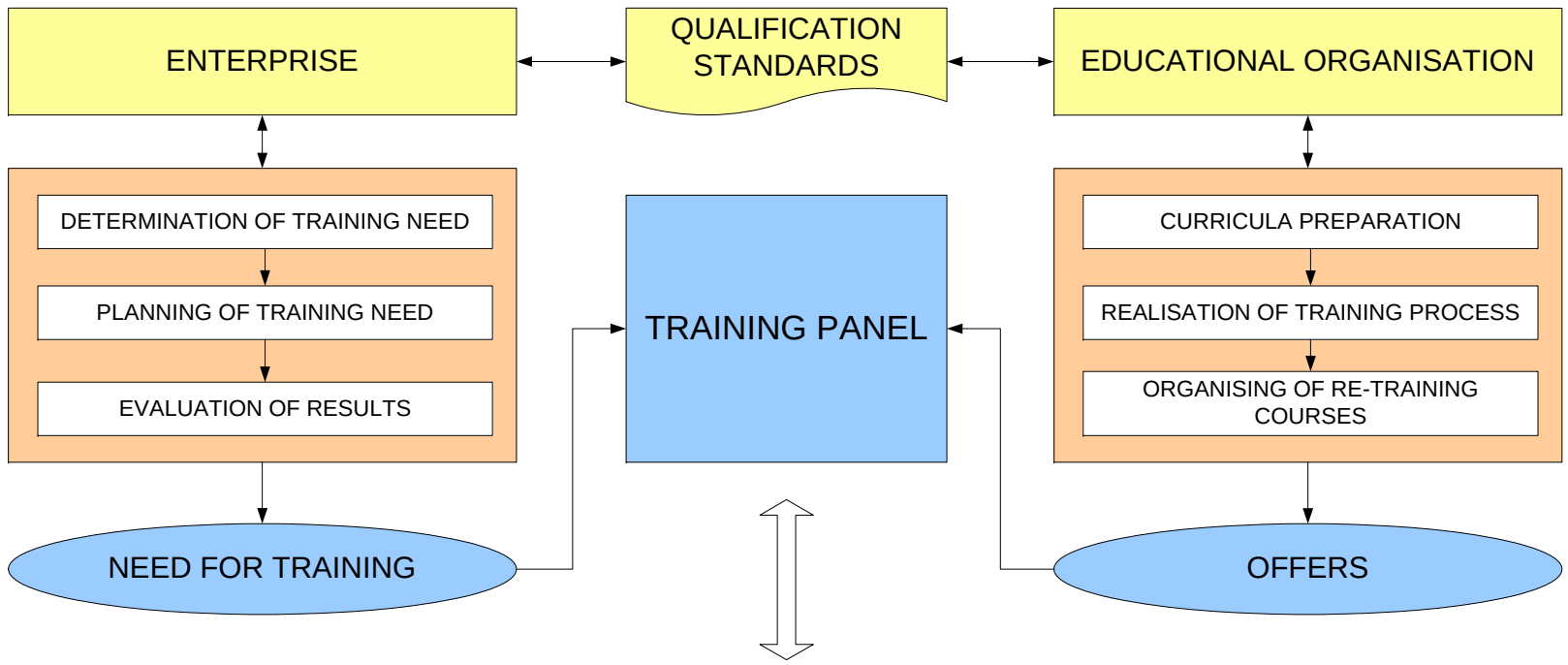
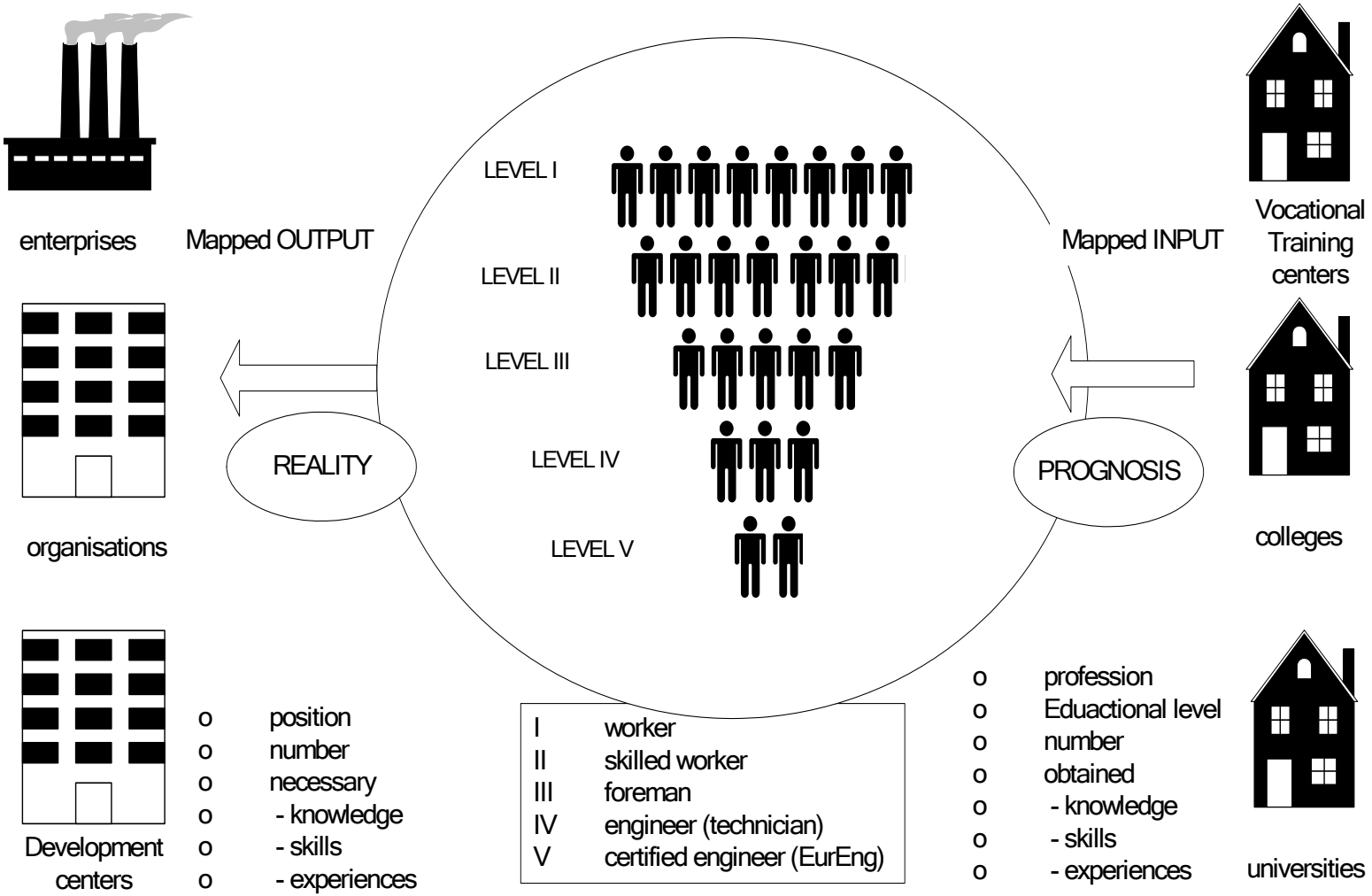
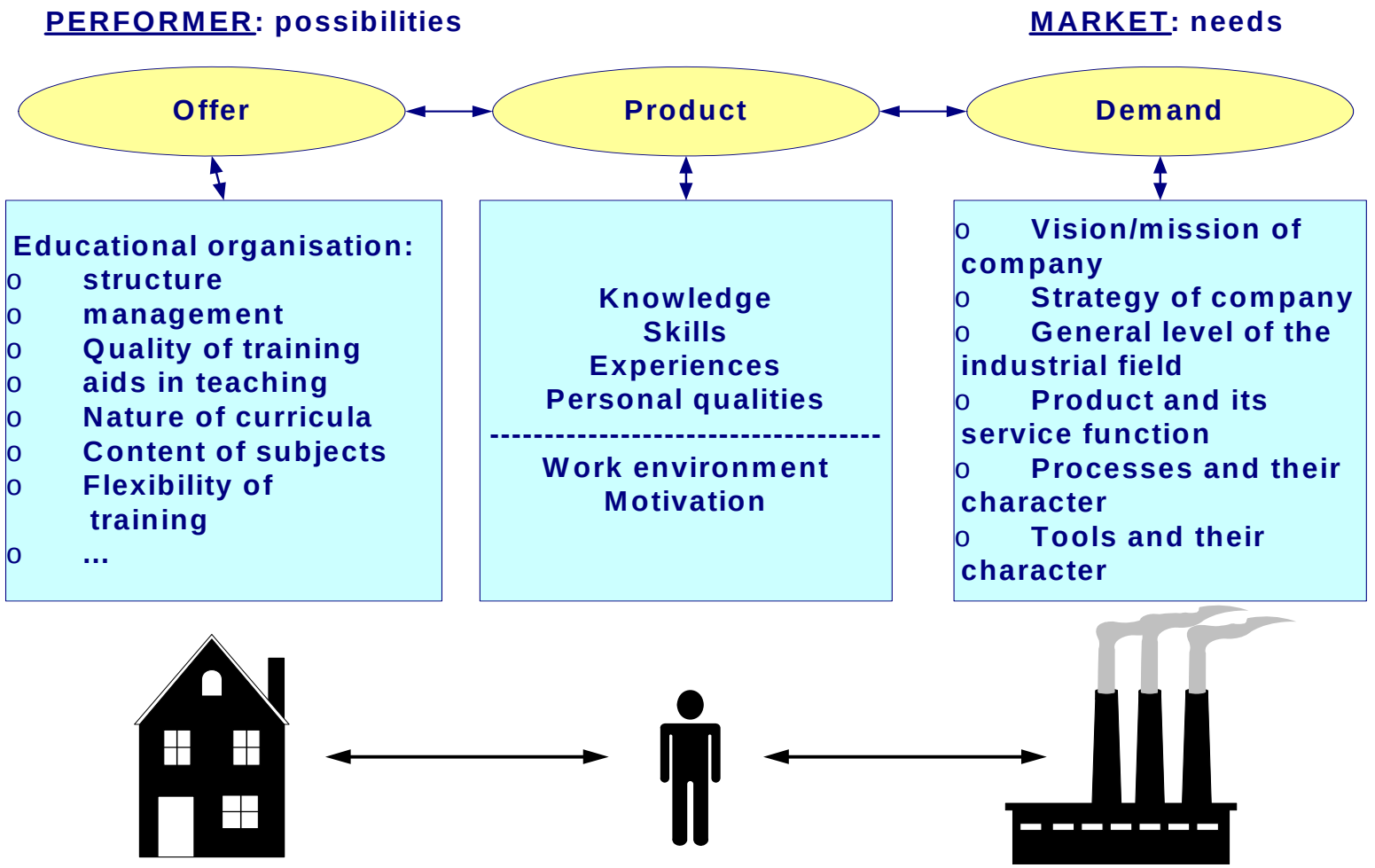
ANNEX 1. INNOMET system schemes & processes



Ordered worforce market

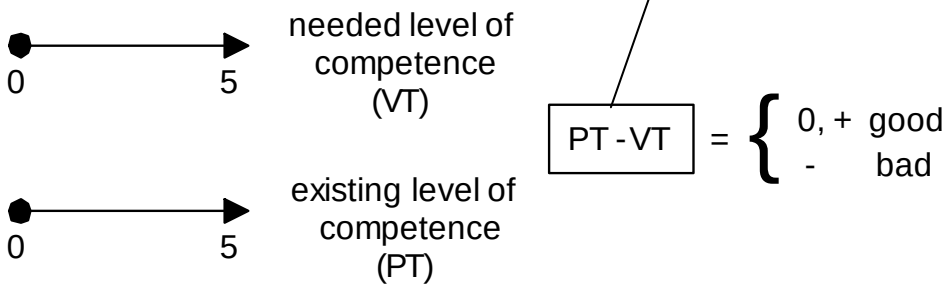


Specialist's development process

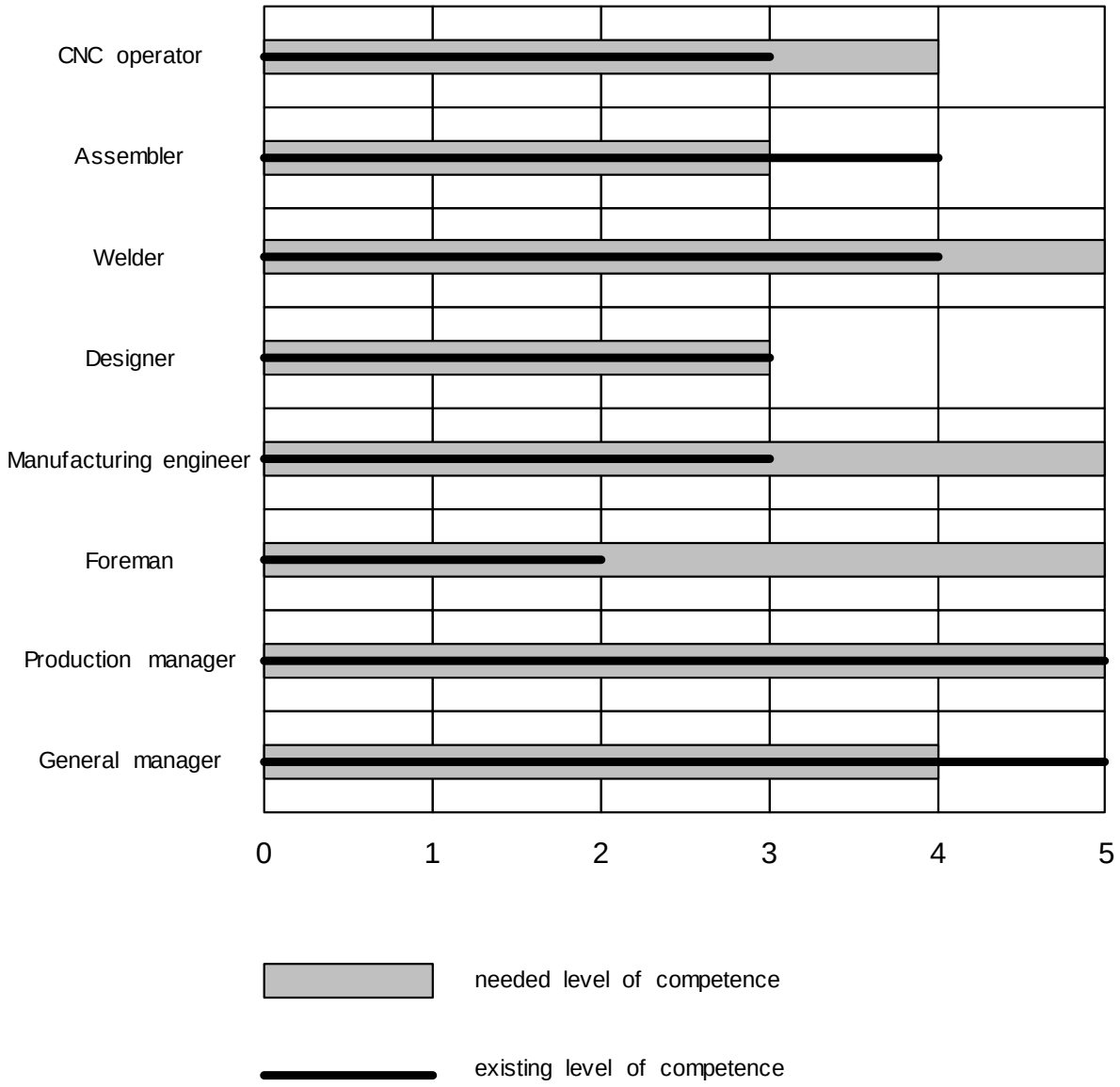

PERFORMER: possibilities
MARKET: needs
Offer
Product
Demand
Educational organisation:
o structure
o management
o Quality of training
o aids in teaching
o Nature of curricula
o Content of subjects
o Flexibility of training
o ...
Knowledge
Skills
Experiences
Personal qualities
Work environment
Motivation
o Vision/mission of company
o Strategy of company
o General level of the industrial field
o Product and its service function
o Processes and their character
o Tools and their character

INNOMET system
Evaluation and assessment of training need for human resources

Work assignment	Area of competence			
	General skills	Basic skills	Specific skills	Personal skills
Machine operator				
EDM operator				
Assembler				
Welder				
Mechatronic				
Workshop manager (foreman)				
Manufacturing engineer				
Designer				
Production manager				
General manager				



INNOMET system output:
Level of skills and need for re-training

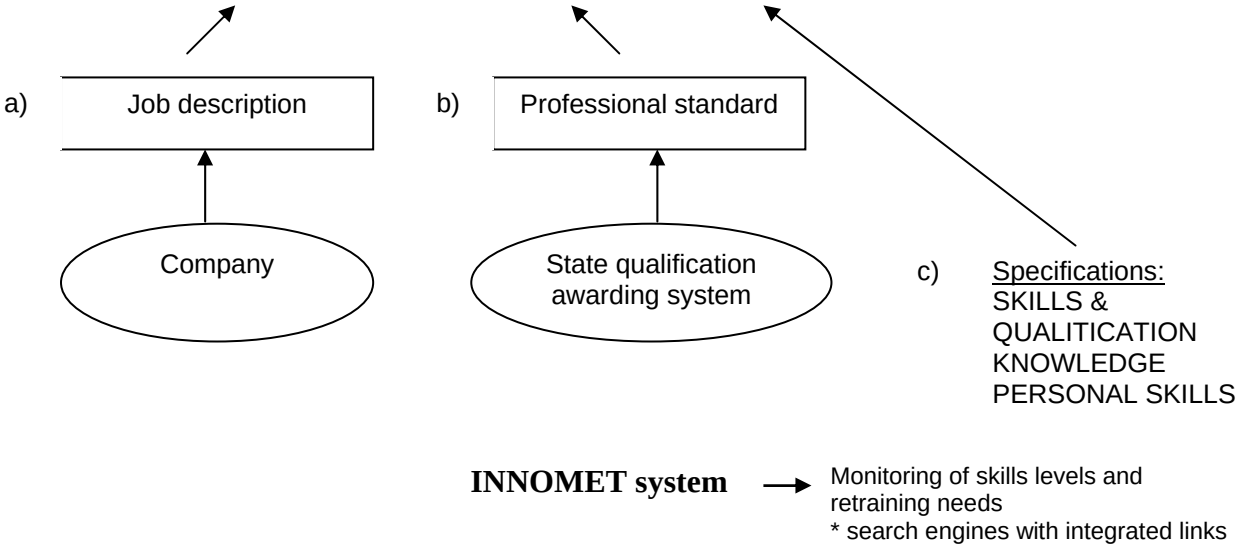


ANNEX 2. Evaluation Methodology

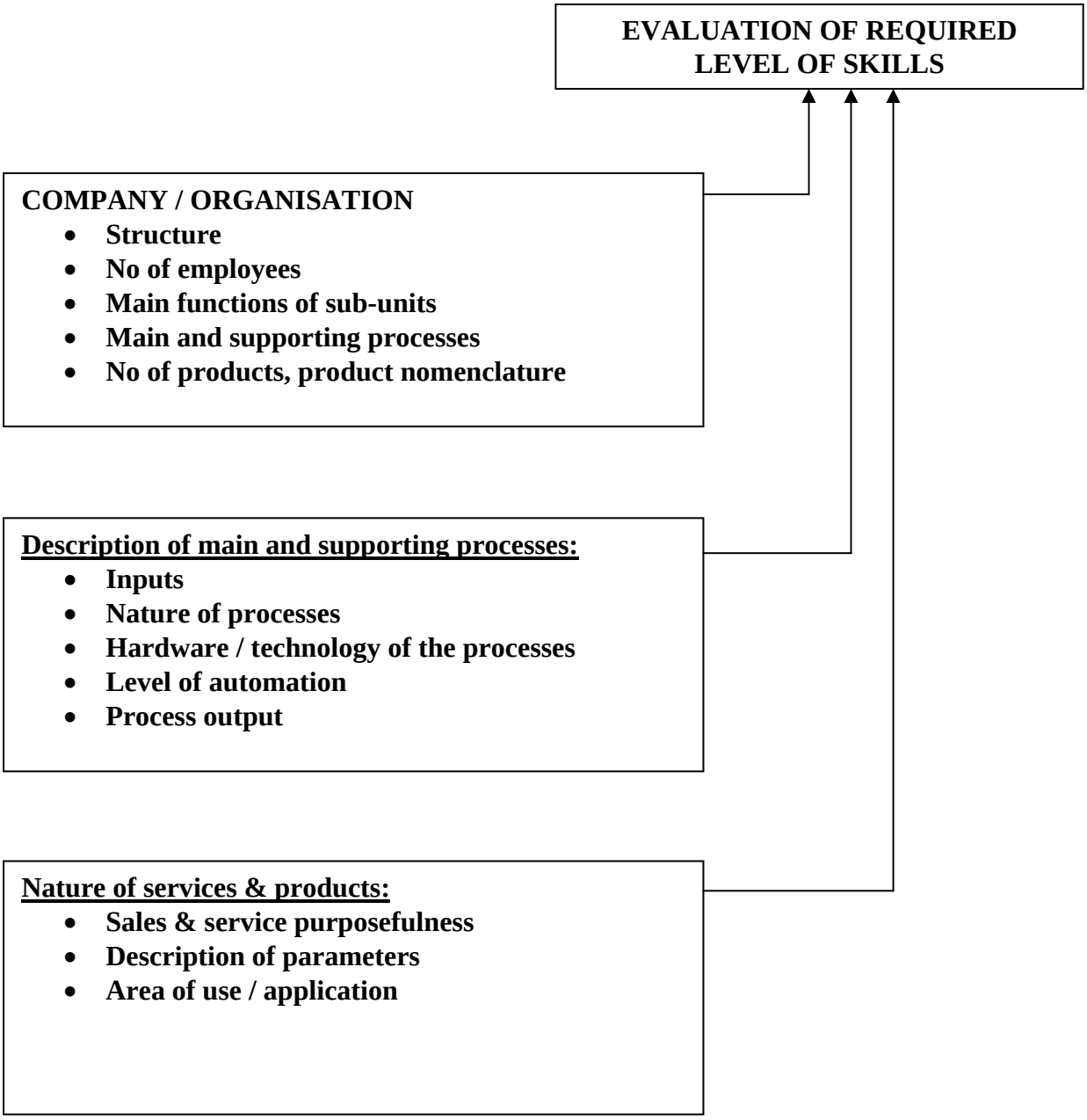
Development of the methodology of the "expert evaluation" system of the skills and qualifications in INNOMET system – how to measure skills?

- How to evaluate skills and qualifications on different levels?
- How to develop and propose the demanded/ **required skills levels** and recommendations to employers? Links to theory and measuring methods (mathematics, etc)?

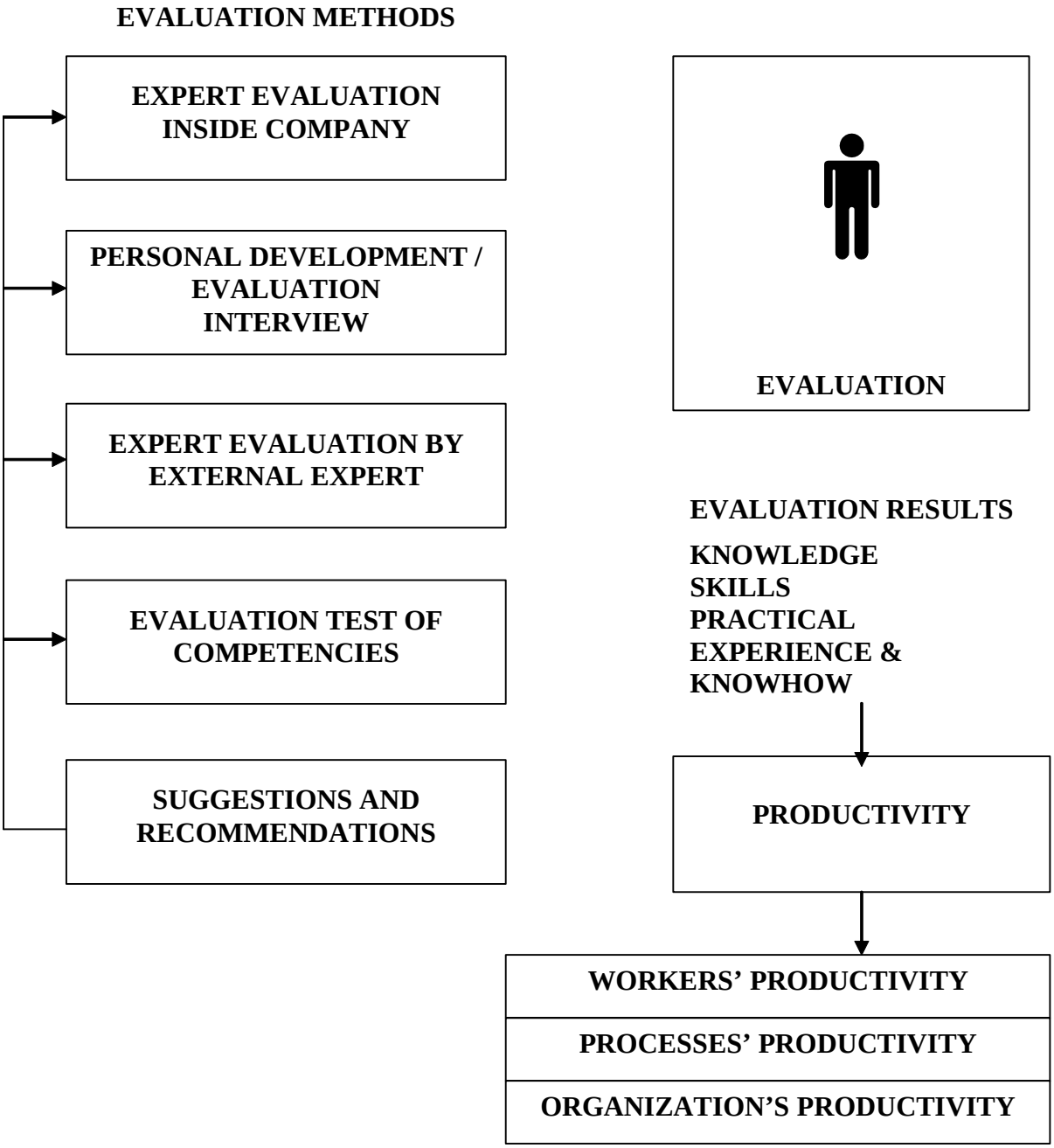
Description of skills, knowledge, level of qualification	**EXISTING SKILLS**	**DEMANDED/ REQUIRED LEVEL OF SKILLS**
General skills	[0…-5]	[0…-5]
Basic skills	[0…-5]	[0…-5]
Extra skills	[0…-5]	[0…-5]
Personal skills	[0…-5]	[0…-5]



Determination of the <u>demanded / required</u> levels of skills – methodology of expert evaluation



EVALUATION of <u>EXISTING</u> LEVELS OF SKILLS



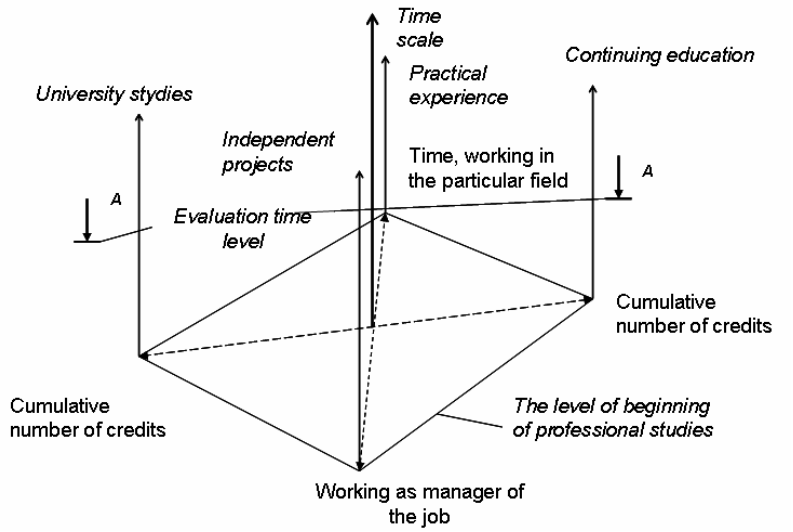
Development of engineering related skills evaluation methods and practises

1) **Top management level engineering professions**
2) **Development engineers**
3) **Production/ practical level engineers (process planning engineer, surface treatment engineer, material science engineer, welding engineers, etc)**

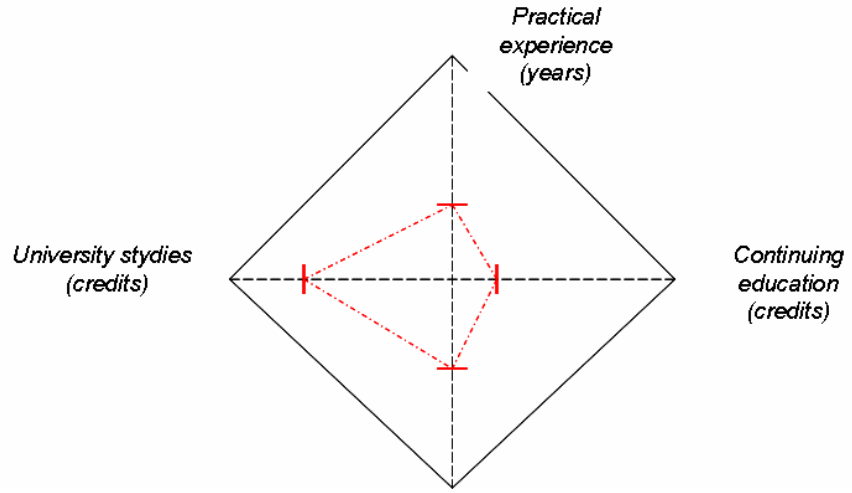
Specific knowledge and skills **are defined by the particular job (*engineer*: product developer, process planner, designer of fixtures etc, *manager*: design office manager, job shop manager, procurement manager, marketing manager etc)**
As rule these *specific skills* one can gain through

- **Practical experience**
- **Special courses and practice**

If on the time level A the qualification of the Person will be evaluated or the Person applies to the new job the data on the Persons performance will be checked.



Cumulative professional evolution



Qualification on the evaluation time level A