ASSOLOMBARDA
Confindustria Milano Monza e Brianza

fondazione irso
istituto di ricerca intervento sui sistemi organizzativi

Costs and benefits of company participation in ITS projects

FINAL SUMMARY OF THE RESEARCH REPORT

With the support of

J.P.Morgan

Milan, 15 November 2017

ITS in Italy

The need for change

There are currently 93 ITS - Istituti Tecnici Superiori/*HigherTechnical Institutes* - in Italy offering 380 courses. A large number can be found in Lombardy which boasts 18 Foundations and a much higher proportion of such institutes compared to other Regions.

The number of students enrolled in ITS in the whole of Italy is 8,232 and there are roughly 6,216 ITS graduates to date.

In Germany, there are 880,000 students enrolled in Fachhochschulen. In France, there are 360,000 students enrolled in the professional tertiary system (STS and IUT). It is undeniable that Fachhochschule, STS and IUT are among the most important pillars of corporate competitiveness and youth employability in Germany and in France.

The situation in Italy must change, as has also been suggested by Associazione Treelle and Fondazione Rocca in a well-known publication.

The Assolombarda project

"Focus on youth: develop ITS employability"

The project focuses on the following four issues:

1. defining a conceptual, educational, economic, management model with a view to involving companies in both the planning and creation of courses so as to increase the number of ITS in Lombardy;
2. establishing placement-oriented partnerships with secondary schools, Universities and employment agencies;
3. increasing the awareness of students, teachers and families as regards the ITS model's potential;
4. proposing and disseminating this model and approach to the 18 Foundations operating in Lombardy as well as to the other Foundations working in the same fields (mechatronics industries, chemistry, tourism) in Italy.

The Fondazione Irso Research

The Fondazione Irso conducted research which falls within the broader scope of the Assolombarda project's objectives, with the following **aims:**

1. to analyse the cost and benefit dynamics linked to the hiring of ITS graduates by companies;
2. to help assess the real company needs for skilled personnel by examining the effective roles resulting from the various training options within the three research areas.

Two **problems** must be addressed:

1. What makes a company want to employ an ITS graduate?
2. For which effective roles are ITS graduates trained?

The quantitative research was conducted in two stages.
First on a sample of 228 companies (Assolombarda members), of which 25% with over 100 employees and 75% with up to 100 employees, operating in the services (38%) and industrial (62%) sectors.
At a later stage on a sample of 40 ITS partner companies operating in the manufacturing (52%) and services (15%) sectors, of which 40% with up to 100 employees and 47% with over100 employees.
The qualitative research focused on three case studies.

Report Summary

- **A still little-known system**
- **The starting point. Future demand for ITS**
- **Research hypotheses**
- **Cost / benefit analysis regarding the company**
- **Cost / benefit analysis regarding the staff**
- **Designing *new skills and new jobs***
- **The effective role model**
- **Three case-studies: Vicenza, Cernobbio, Parma**
- **Broad professions for higher technical staff**

A still little-known system

Awareness of the ITS system

Only 36% of the contacted companies **knew about Higher Technical Education (Istruzione Tecnica Superiore - ITS), but 65% would be interested in collaborating and being involved in training programmes.**

The reasons given by companies are lack of contact by schools, lack of time, as well as the belief that the programme would not benefit the company in any way: this is the case for companies with over 100 employees. Moreover, 6% of companies with up to 100 employees state that they have never collaborated with technical institutes due to a lack of resources.

A still little-known system

How is hiring done in Italy?

In the last five years, hiring by companies in Italy has been mainly carried out through fixed-term and open-ended contracts.

Our research has shown that **companies with over 100 employees have a greater propensity to use and experiment with different employment options other than hiring** such as: curricular and extracurricular traineeships, temporary agency work contracts and professional apprenticeships.

On the contrary, companies with up to 100 employees rely on more traditional hiring methods and **only 30% claim to have used professional apprenticeships as an employment method in the last five years.**

A still little-known system

Approach by partner companies

The main recruitment channel indicated by ITS partner companies (58%) consists of companies accredited/authorized to provide employment services. The second most-used channel (48%) is the assessment of young trainees sent by schools to companies. Other channels include the screening of curricula through the internet or social media and spontaneous candidatures of people presenting themselves to a company.

Only 25% of companies claim to recruit young people by selecting them from a list of graduates from technical education and training courses or following indications by educational or training institutes provided through placement services.

A still little-known system

Participants in the project are very satisfied

From the sample of ITS partner companies it emerges that collaboration with the Institutes started after direct contact by the school, followed by traineeships (in 85% of cases) which revealed:

- a compliance between training programmes and work profiles requested by the labour market (30%);
- the availability of resources with a targeted and personalized training (25%) able to acquire technical and scientific skills;
- enhanced soft skills and working experience as well as greater transversal skills such as: working in a group, problem-solving etc. (15%)

The starting point

Future demand for skilled personnel

The Excelsior research, conducted annually by the Unione delle Camere di Commercio on a sample of 90,000 companies, highlights certain positive elements which will become more important once the employment rate starts rising again, and more specifically:

- **companies' tendency to seek increasingly more qualified staff**: 52% of new staff hired in 2014 consisted of college or high-school graduates compared to 50% in 2009; in particular, high school graduates were the largest group (41.6%) of workers requested by companies;
- **enhanced demand for medium-skilled workers** (46.7%, compared to 37,4% for low-skilled workers and 15.9% for highly-skilled workers);
- **moderate demand for high-school graduates with a post-graduate specialization,** representing 6.2% of total planned recruitments.

The starting point

Future demand of highly-skilled technical staff

Medium-term forecasts also confirm the demand for intermediate technical workers: according to Cedefop, the European Centre for the Development of Vocational Training, job opportunities in Italy from now to 2025 will regard:

- **professionals** (highly-skilled workers in the science, health, economics and education sectors), covering around 22% of total jobs;
- **technical and similar professions** (implementation of models, methods and operating rules in the scientific, artistic, engineering, health and industrial sectors and in the public sector).

Main findings of the research

- ✓ **When a company decides to invest in an ITS project a favourable cost/benefit ratio is necessary but not sufficient in itself. The cost of the project should not be excessive but the decision drivers are broader.**

  Investing in an ITS project produces benefits for the company on various organisational levels that cannot be evaluated only in economic terms.

- ✓ **The role of ITS goes beyond that of a simple 'training provider'.**

  Companies – and the Foundations they participate in – are deeply aware of the roles, professions and skills they require. Indeed, together with local authorities, training institutes and stakeholders in the field of professional innovation, companies engage in *role designing,* i.e. planning and implementing training courses that transform 'theoretical roles' into 'effective roles', thus enhancing the company's business processes.

Benefits from corporate involvement in ITS projects (1)

a) Tangible benefits

Cost reduction

- direct costs linked to the selection and hiring of people suitable for the required positions;
- direct training costs aimed at developing the skills required from newly hired employees (particularly in terms of time and human resources);
- indirect costs as a result of missed business opportunities due to the lack of skills linked to innovation, market presence, use of technologies, efficiency, etc.;
- indirect costs due to the failure to quickly embrace company culture and to make the transition from the world of training to that of production.

More efficient recruitment of talented and skilled workers

- selection and recruitment of suitable young workers who are motivated, intelligent, able to take the initiative, flexible, cooperative, resilient, creative and bent on continuous improvement and innovation;
- acquisition of new, specific skills linked to new roles and emerging professions, focusing on a company's innovative products and processes as well as on new markets, especially at a metacognitive and relational level (complex thinking, problem-finding and problem-solving, proactiveness, pro-socializing).

Benefits from corporate involvement in ITS projects (2)

Acquisition of new know-how

- access to the scientific, technical and educational know-how provided by the School, which goes beyond a single product group/market;
- possibility to commission custom-made projects for individual companies (project work) developed jointly by students and experts from the School, impacting positively on the company;
- transfer of models and tools aimed at technological, organisational and social innovation, previously tested at the School's 'laboratories' in collaboration with national and international research centres and Universities.

b) Reputational benefits

- public recognition and media visibility of a company's social responsibility through its involvement in national strategic projects which could not have been carried out by institutions and single companies;
- access to the social relations network generated by the project.

Cost / Benefit analysis for the company

Difficulty to quantify the value and cost of training

What is the cost of selecting and integrating a new trainee in the company?

How does this compare with the cost of selecting an already trained worker?

It is not easy to answer these questions not only because it is difficult to exactly quantify the cost but mainly because it is difficult to quantify the benefits gained by this type of process. The fact is that not everything can be defined in terms of value and cost.

Cost / Benefit analysis regarding the company

Cost of a normal integration process

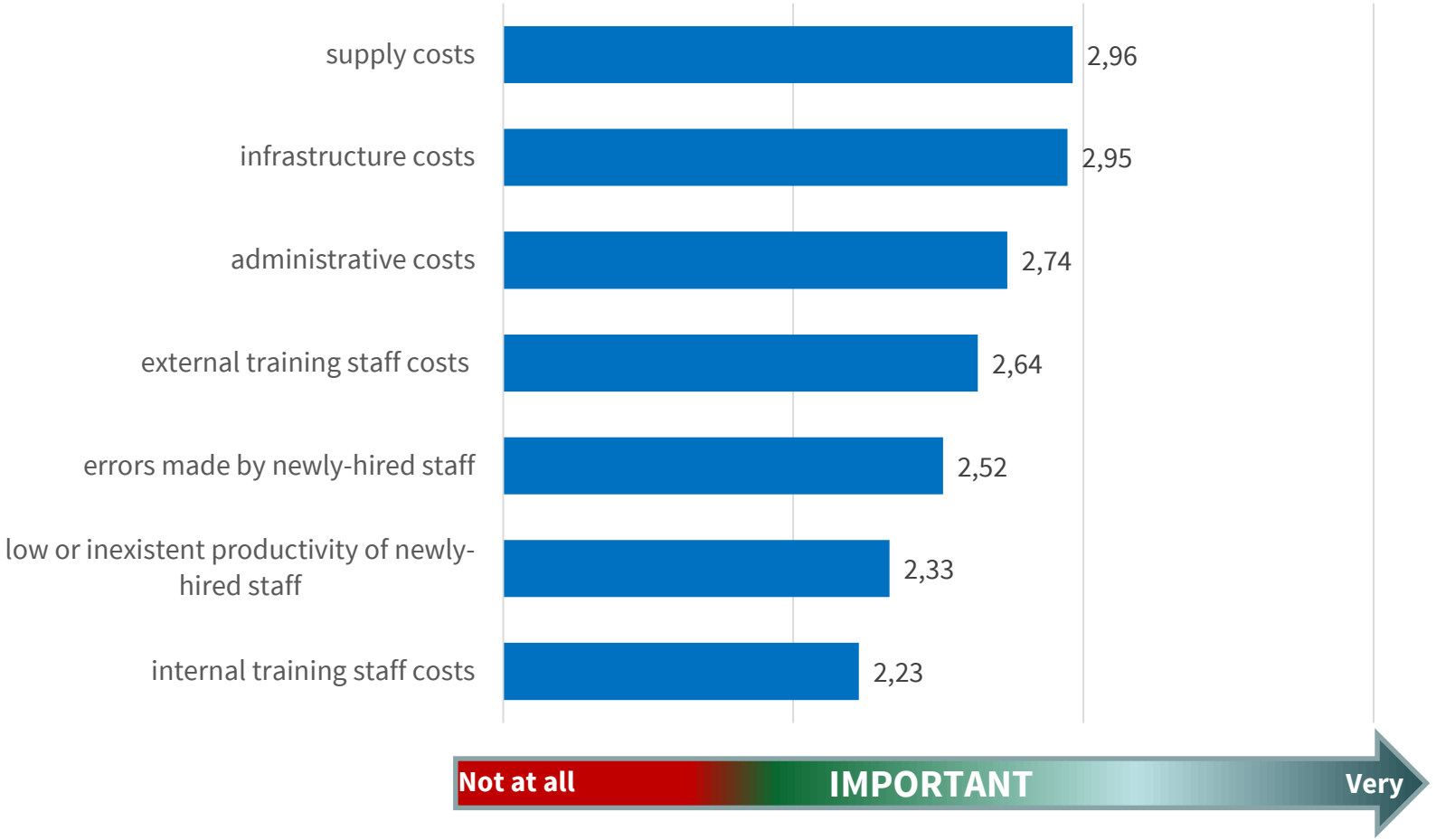
There is no standard classification of costs related to training processes and programmes but there exists a vast literature of North-European studies on the subject which is mentioned in the Report.

It is nonetheless possible to compile the following list of costs that a company may incur in relation to the integration of a new, not previously trained, worker:

- Cost of newly-hired personnel
- Supervision time and cost
- Cost of early exit before the company has recouped its investment
- Cost of possible ‘poaching’ by competitors, capitalising on other companies’ investment
- Management costs
- Cost of training tools/equipment
- General contributions to the integration process

Cost / Benefit analysis regarding the company

Costs considered most important by companies in the sample



Cost / Benefit analysis for the company

Supervision time and cost

In most workplaces, newly hired staff is trained by people already working in the company and therefore more experienced. This training process is very time-consuming. According to our research, **53% of companies state that the training of newly hired workers lasts for over a year while 44% state that it takes 1 to 3 years.**

Integration of ITS graduates

The hiring of ITS graduates is much quicker because they have already acquired specific skills and general competencies.

As regards companies belonging to the ITS system:

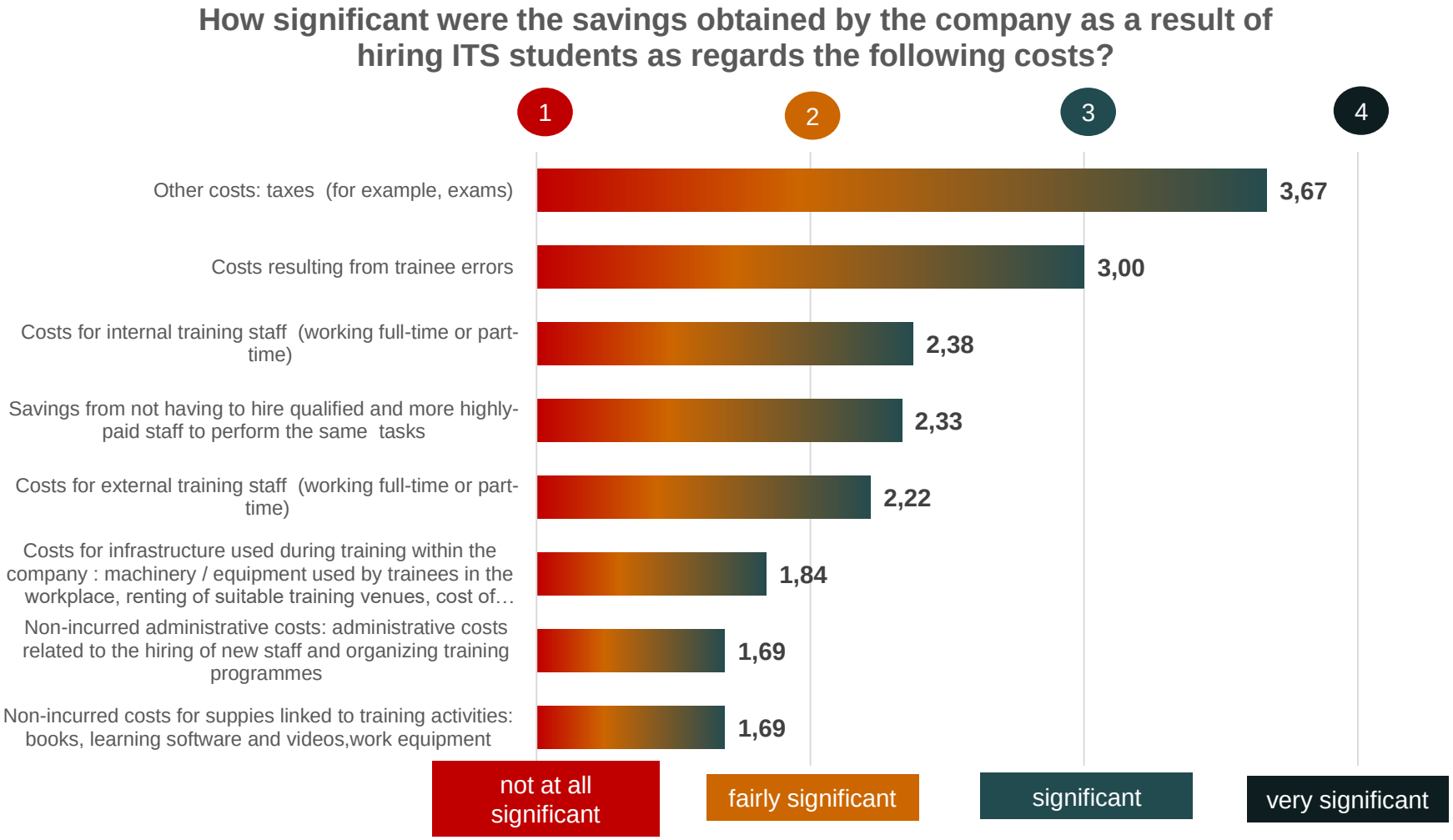
- **20% state that the time saved was less than one month**
- **20% state that the time saved was between 2 and 4 months**
- **10% state that the time saved was more than 4 months**

Only 32% of companies state that, despite integrating workers from ITS programmes, the training process took the same amount of time.

The companies that were interviewed indicate other advantages obtained by the hiring of ITS students: savings compared to hiring of already skilled personnel, lower administrative and fiscal costs, shorter training time of internal staff, less errors,... The following table contains the answers to our questionnaire.

Cost / Benefit analysis regarding the company

Savings attributed to the hiring of ITS students



Cost / Benefit analysis for the company

Selection costs

According to our findings, the selection process of a newly hired worker takes place within the company (47% mainly within the company, 41% entirely within the company), something which requires time and resources, and lasts roughly between 2 and 4 months (58% of companies) and less than one month in 33% of companies.

The analysis of the sample of ITS partner companies showed that, **by calling upon ITS graduates,**

- **25% of companies noted that the selection period had been shortened by less than a month**
- **27% noted that the period had been shortened by 2 to 4 months**

Only 30% of the companies that were interviewed state that despite being able to call upon ITS graduates, the time required for integrating newly hired staff did not change.

Cost / Benefit analysis for the company

Benefits regarding competencies

The development of staff competencies has an important impact on companies.

In Germany, a study conducted on 15,000 companies showed that for six out of ten companies, technical training programmes constitute a very important means of satisfying future demand for staff (Ebbinghaus, Ulmer, 2009). This is due to the fact that these courses help newly hired staff to develop skills which allow them to face unforeseeen problems and real working life situations (Rauner, 2005), in other words to acquire key competencies.

Cost / Benefit analysis for the company

Lower costs for internal training of newly hired workers

Our research demonstrates that 72% of companies with up to 100 employees provide training courses for newly hired staff.

95% of companies with over 100 employees organize courses for newly hired staff mostly within the company.

These percentages are much lower in the case of companies involved in ITS programmes. Indeed, only in 42% of cases have ITS graduates been involved in training activities organized within the company, aimed mainly at developing new skills, improving existing competencies or filling gaps in training, while 43% was not involved in specific training activities, other than mentoring, in the workplace.

Cost / Benefit analysis for the company

Benefits obtained by ITS partner companies

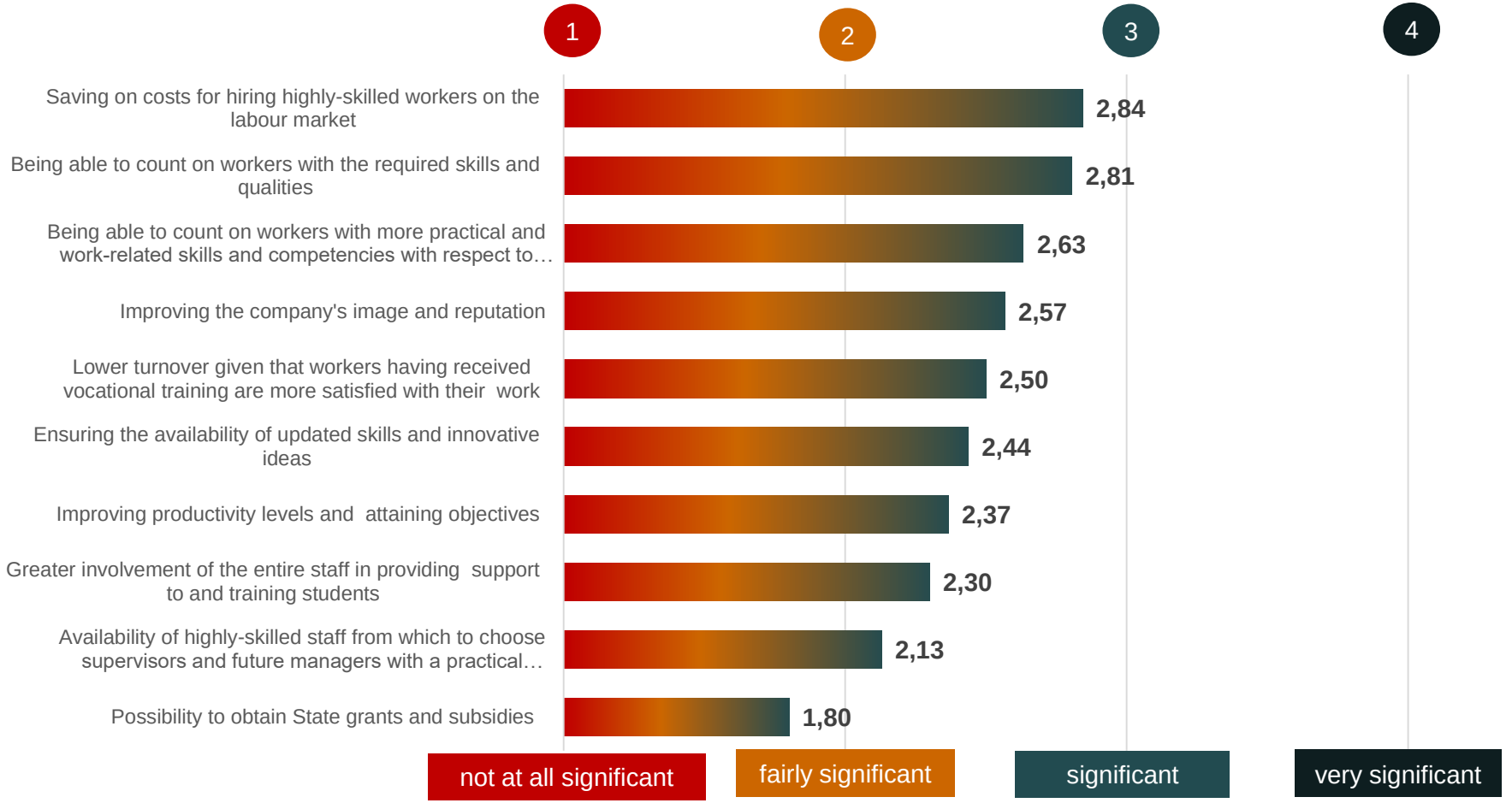
What emerges from observing the sample of ITS partner companies is that the hiring of students participating in ITS programmes has allowed companies to reap benefits such as:

- the reduction of medium-skilled worker recruitment costs;
- the availability of a group of people with practical skills, as well as knowledge and competencies which are specifically targeted to the company's needs and constantly updated;
- a lower turnover rate, since trained workers feel that they are on a semi-professional learning track.

Cost / Benefit analysis regarding the company

Main advantages from investing in ITS programmes

How important was the short-term advantage for your company resulting from the hiring of ITS students, as regards the following aspects



Cost / Benefit analysis regarding the staff

An important boost for technical professions

Besides companies, there are costs and benefits linked to the integration process which also regard workers.

The main benefit for the worker is the **quality of the training** obtained through an ITS programme.

In ITS programmes the strong link between learning processes such as attending training courses, actual working experiences and hands-on learning (through observation and practice), leads to the development of competencies and techniques related to a particular job (hard skills) as well as to the acquisition of knowledge and behavioural skills (soft skills).

The skills acquired as a result of direct involvement in the production process compared to those acquired through programmes offering training courses, are more effective as students are able to become familiar both with production methods and with the conditions existing in a real – and usually financialy profitable – workplace.

Cost / Benefit analysis regarding the staff

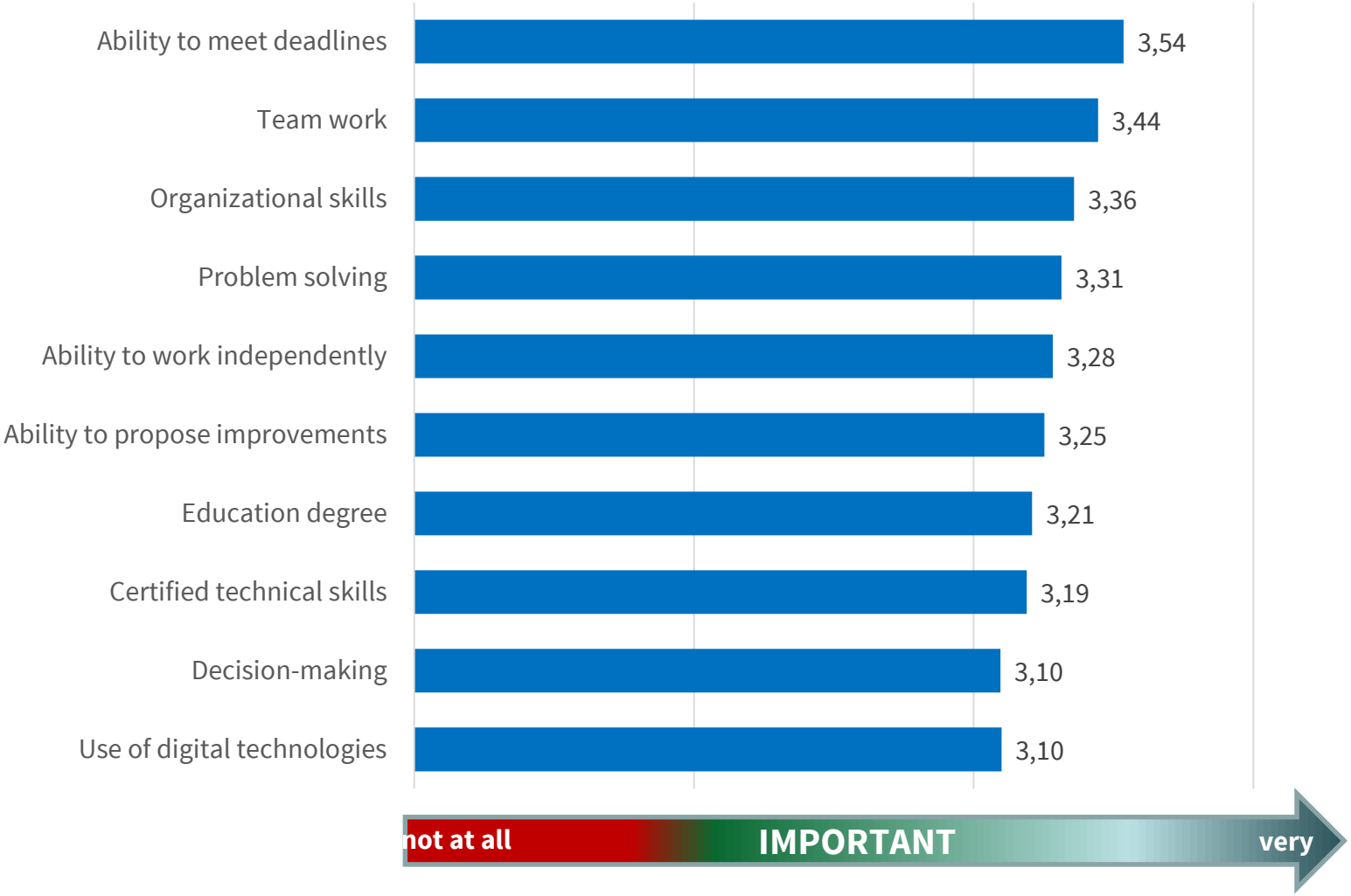
Transversal skills, competencies and approaches

Technical skills alone are no longer considered sufficient in today's labour market. Social and personal competencies (communication, teamwork and social skills), general competencies (planning and problem solving) and personal characteristics (such as being resourceful, highly motivated and ready to take risks) are today more important than ever.

This aspect is also confirmed by our research which indicates that the competencies carrying the most weight during the selection process are related to the ability to meet deadlines, work in a team, organize one's own work and solve problems.

Cost / Benefit analysis regarding the worker

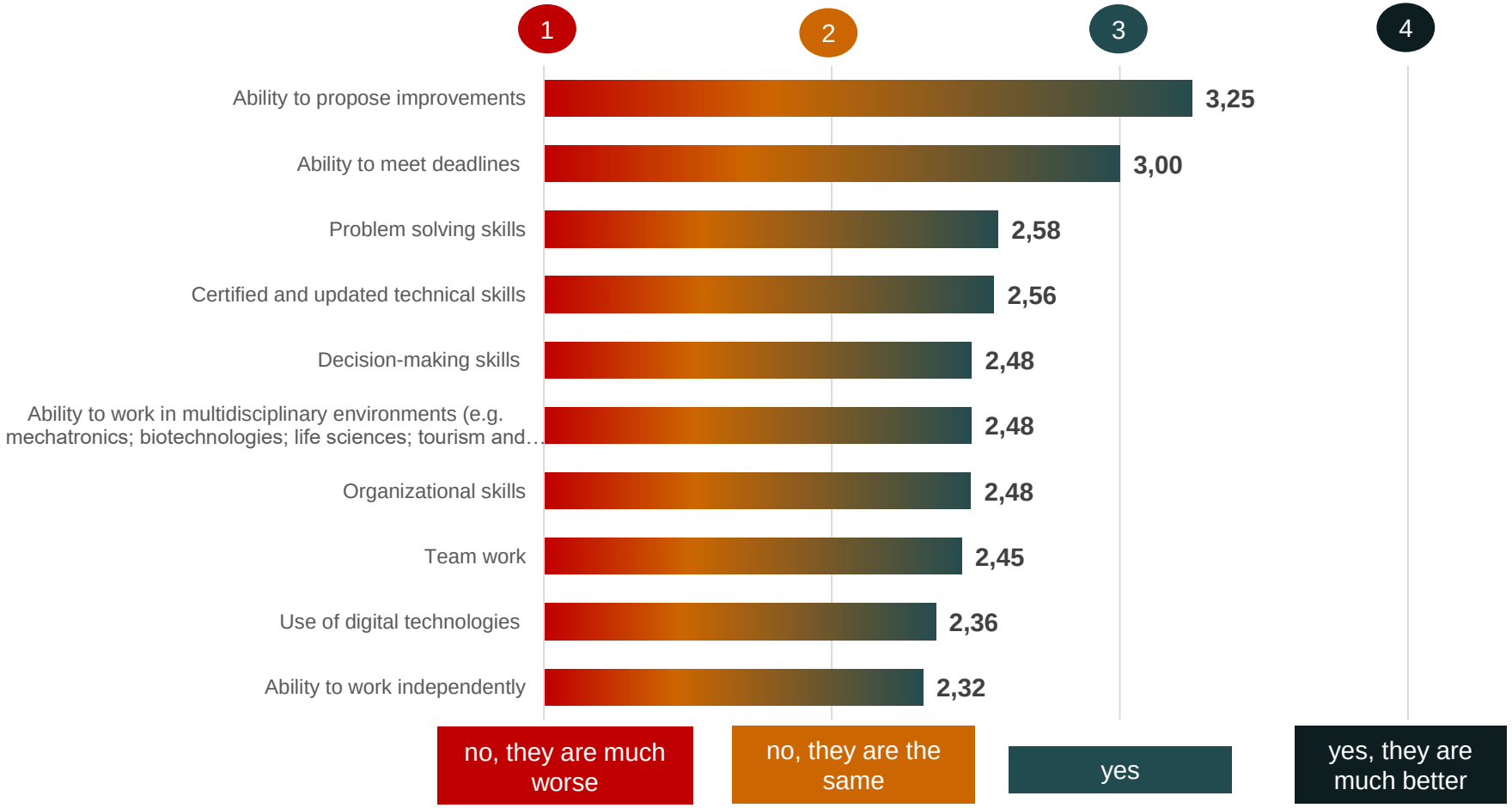
Company evaluation of the competitive advantage provided by ITS students



Cost / Benefit analysis regarding the worker

Company evaluation of the competitive advantage provided by ITS students

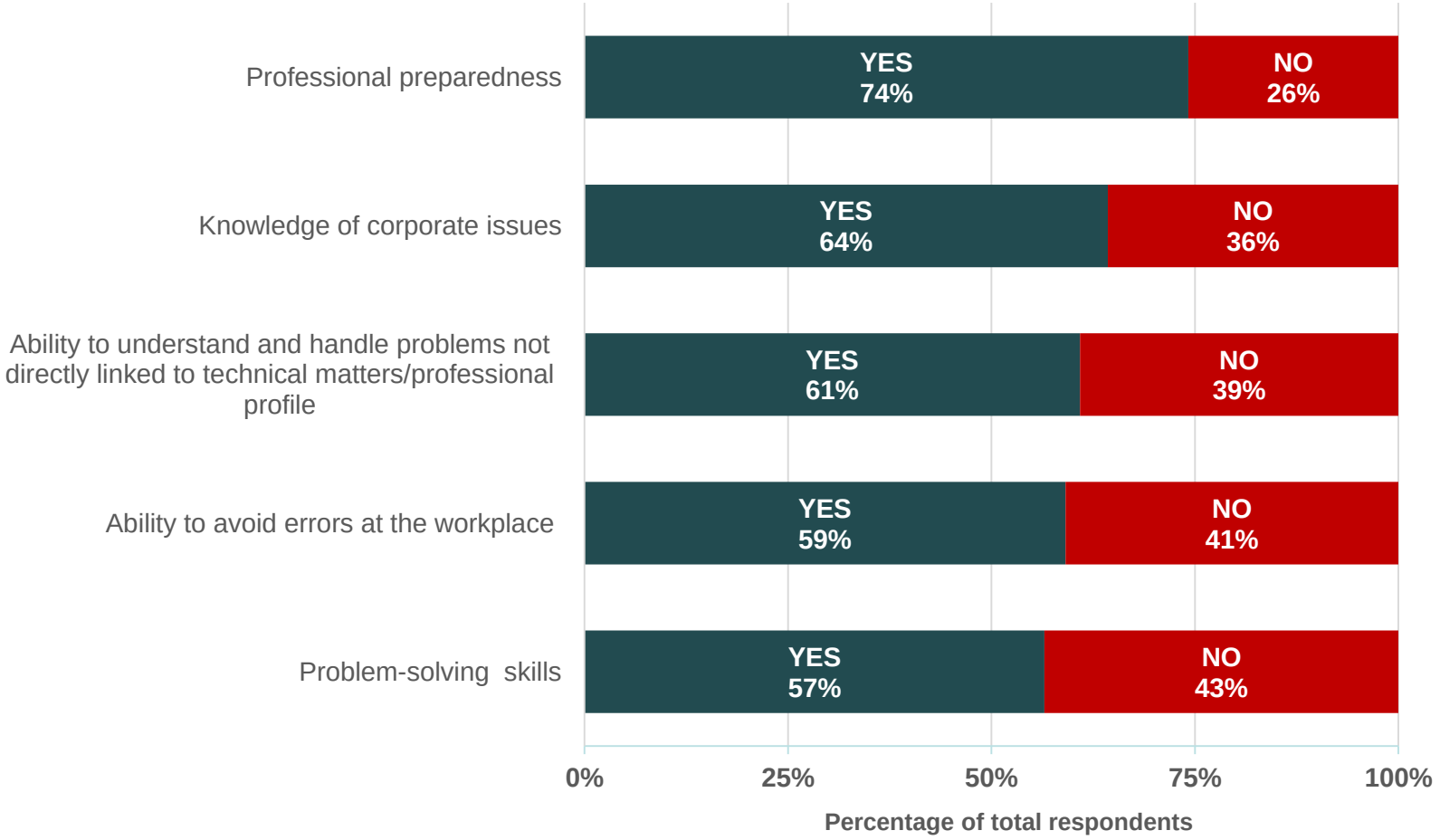
Based on what you have observed in your company, do ITS graduates have a competitive advantage with regard to the following skills?



Cost / Benefit analysis regarding the staff and the company

Company evaluation of the competitive advantage provided by ITS students

Compared to other newly hired workers, do you think that during their apprenticeship ITS students demonstrated greater…



Jobs and professions taught by ITS

ITS train students for jobs and professions situated on average at level 5 of the EQF (European Qualification Framework), which requires specialized knowledge, problem solving abilities, adaptation and supervision skills.

Industry 4.0 will enhance the complex interaction between technological and organizational systems and work. This will require a great number of medium-skilled jobs and professions to ensure the undertaking of tasks such as executive planning, systems integration, maintenance, leading working groups, continuous improvement, research and analysis, sales, customer care and many more. These tasks will rely increasingly on development potential, advanced communication technologies and artificial intelligence.

Cost / Benefit analysis regarding the company

Competencies: hard and soft skills

Technical education courses are one of the ways of developing specific technical skills but also the ability to interact with the social and physical environment, by managing information and interpreting data so as to meet the demands of companies that are increasingly on the lookout for human resources who not only carry out their assigned tasks, but do so better than others.

Many of these skills are difficult to develop outside the real working world like, for instance, the approach towards work, including the ability to take on responsibility, meet deadlines and act according to the situation. The key competencies known as soft skills (communication, team work and social skills) are becoming increasingly important in today's labour market.

Cost / Benefit analysis regarding the company

Competencies: hard and soft skills

Technical training programmes are able to develop self-esteem and self-efficacy once newly hired workers are given the opportunity to demonstrate what they are capable of, complete tasks and solve problems in a specific work context.

Working experience also helps young people to develop their ability for self-assessment and to acquire the necessary confidence that will allow them to learn from and reflect upon their experience. People usually become aware of the need to develop transversal skills when they have to put them to practice and these skills are difficult to develop if one is not faced with the concrete demands of a real working environment.

The same skills can benefit workers also outside their working environment, even though this may not be perceived as clearly and immediately as the return obtained from developing professional skills or specific competencies linked to a given job.

Designing *new skills and new jobs*

A method for designing roles, professions and profiles

The potential role of higher technical education is to design and carry out not only innovative teaching activities but also to devise 'new jobs'.

How and why? ITS develop new jobs and professions as well as a new professional model.

- New jobs and professions will involve experts who will provide services to external and internal clients with the help of technologies and operating through models based on largely self-regulated cooperation, the sharing of knowledge inside and outside work groups, planetary communication, interaction between people and between people and technological systems and ecosystems. These activities will be included among the limited number of broadband professions. It is not a case of inventing names and profiles but of **enhancing the design of concrete jobs and skills which require training** so as to allow students to pass from 'theoretical' to 'effective' roles in the best possible manner.
- The model aims at creating **future professions**, going beyond traditional arts and crafts, industrial and liberal professions.

Designing *new skills and new jobs*

A method for designing roles, professions and profiles

Basic training and the constant development of learning (education, work skills, culture or, in other words, knowledge, know-how, self management and interpersonal skills) are the main requisites for any job in the Industry 4.0 world. For this reason, contrary to the Taylor-Ford notion that people were spare parts of an organizational system which placed 'the right person at the right job', **today, a role – a job – is largely shaped and developed by the person that undertakes it: hence the need for training.**

New jobs require knowledge spanning various sectors (technology, economics, management etc.) and different skills (leadership, teamwork, the ability to innovate, create, take risks etc.). They are ususally carried out together with other activities, thanks to self-regulated ways of cooperation, knowledge-sharing, enhanced communication, professional and social integration.

Designing *new skills and new jobs*

A method for designing roles, professions and person

These new jobs are like an iceberg whose visible tip represents the assigned and effective role (‘the theoretical profile’), the more or less formally accepted job or profession, the required education and competencies, the capabilities distributed among persons and technological systems. The invisible part – which is much larger – is the *workplace within*, i.e. the sum of a person’s potential, knowledge, skills, energy, professional and non-professional motivation.

The new ITS-trained workers are not only people who fill a certain job or position but real people (whose personal stories and career paths impact the organization and management systems) and members of a community.

The organization of the work and the management of these communities brings together organizations, corporate professions ‘dependent upon’ people and the workplace within.

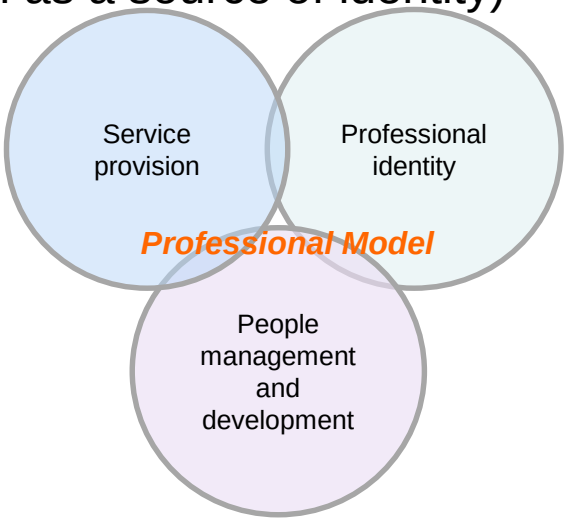
The effective role model

The model that for years has been proposed by the Fondazione Irso for developping both the aforementioned jobs and professions and the people themselves is based on three key factors, all of which are constantly changing, strongly interact with each other and are closely linked to external variables: Role, Profession, Person.

The **Role** is composed of the entire process of Work (activities and tasks), Knowledge (competencies and skills), Relationships (with roles, organizations, persons and technologies), Objectives and Results. The ascribed or assigned role is what an organization requires from a person, while the effective role is the way a person effectively carries out activities, forges relationships, pursues and obtains results.

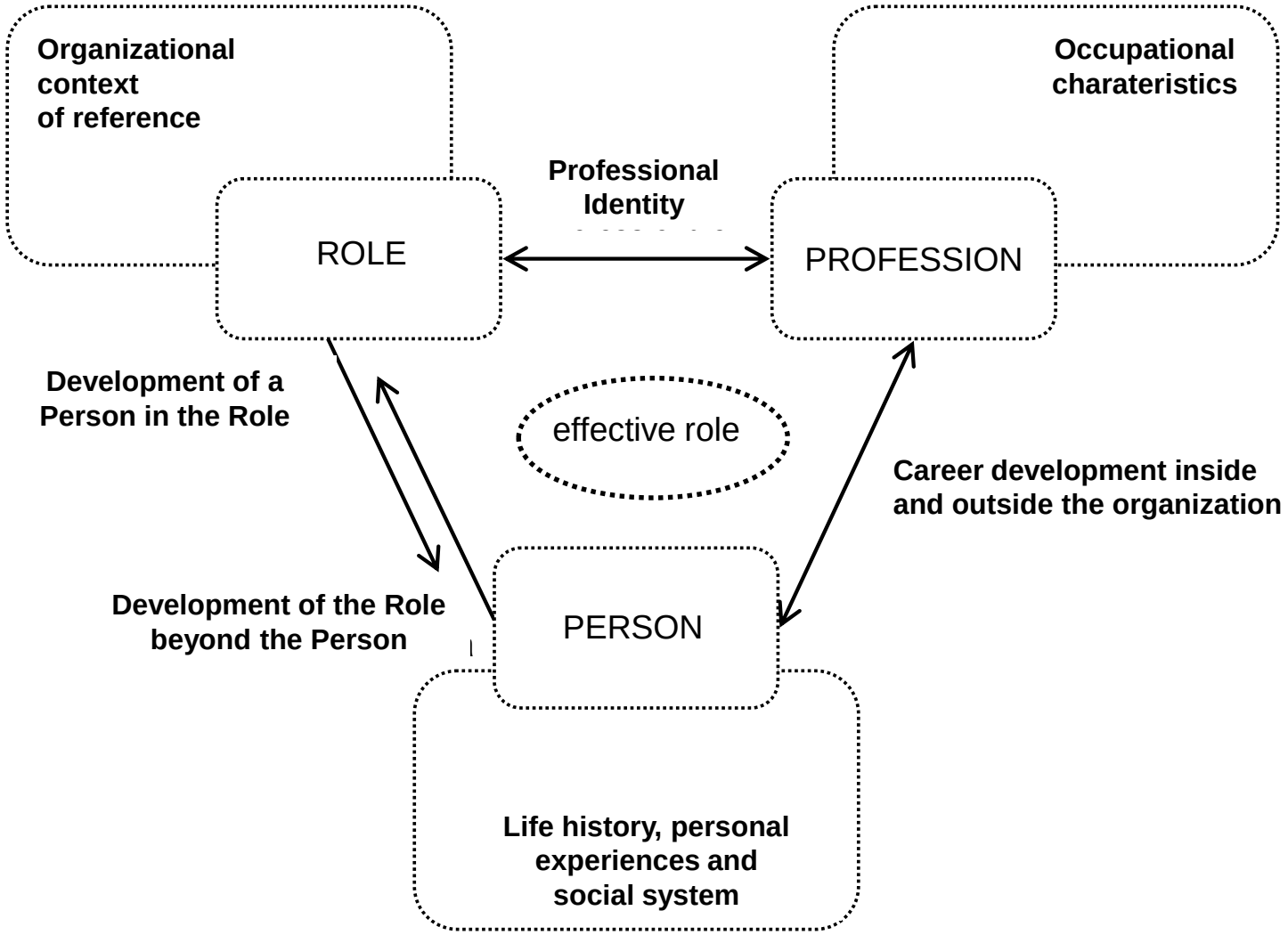
The effective role model

The **Profession** is at the same time a system of services, a system that manages human capital and the source of a person's identity. It requires a large amount of theoretical and technical knowledge regarding a specific field of skills and competencies, acquired through a study programme and a series of more or less related work experiences (profession as a social institution). Lastly, a profession has a name, social recognizability, a positioning on the labour market (profession as a source of identity)



The third variable, **Person,** has to do with the unique story of each individual including characteristics, aspirations as well as physical, psychological, cognitive, professional and social identity resulting from life experiences and actions.

The effective role model



The effective role model

Therefore, in our opinion the role for which ITS should prepare students includes:

a) specific cognitive and operational **activities** (tasks) within the context of real processes;
b) expected **results** and performance;
c) relations with others, with the organization, with technology;
d) required and effective **competencies and skills.**

Contrary to tasks, positions and profiles, a role is not a requirement but a continuously evolving 'part of the organizational and professional system', a 'script' that depends heavily on training. Training helps to transform *required roles*, in other words the script to be followed, into fulfilling *effective roles*.

Broadband professions

A programmed or developed set of roles constitutes a **broadband profession** or broad profession, in other words a job or profession involving a variety of specialized skills but which are linked by similar types of service: broad professions promote development and social identity.

Broad professions allow people to pass from one role to another without losing their identity and can help institutions and organizations to plan training and mobility.

It is the best way for the workforce to obtain a high degree of professionalization, employability, flexibility, real participation, satisfaction (probably) and identity (certainly).

The effective role and broad profession model

Benefits for persons

- Increased awareness of one's role and profession
- Better understanding of one's aspirations and potential
- Facilitated entry and development within a role
- Enhancement of a person's competencies and motivation (empowerment)
- Enabling staff by highlighting their professional and personal skills (the workplace within)

Benefits for the company

- Identifying the gap between required and effective role
- Placing roles within the context of a company's specific processes
- Discovering ways of perfecting or redesigning roles and micro-organization
- Enhancing the visibility and identity of corporate professions
- Providing input regarding the training and development of professionals
- Protecting and developing working life quality
- Programming training

Competencies and skills of High-level Technical Workers

As regards high-level technical workers:

1. **specialized skills** include an in-depth theoretical and technical knowledge of the professional field, excellent specific operational skills, a good grasp of digital technology applications, etc.

2. **transversal skills** include:
   - hard skills, related to basic knowledge (mathematics, technology, logic, history of Art, languages, etc)
   - soft skills, related to basic abilities (client focusing, results focusing, creativity, design thinking, problem solving, project work, team work, etc)
   - skills suited to Industry 4.0. (cooperation skills, knowledge sharing, strong communication and community-building skills)
   - personal attitude (willingness to perform also humble tasks, ability for manual labour, propensity to improve, participation in organized work, desire to work well and particularly to serve the customer)

3. **personal skills and abilities**, the **workplace within**: resilience, personality, maintaining one's identity even under changing conditions, being an "integral person"

The effective role model

Key skills common to various sectors

Hard skills	*Soft skills*
• programming • social media management • mathematics • cad/cam production systems • craftsmanship • project management • planning	**Basic** • customer service/customer experience skills • product/aesthetic awareness • relational skills • creativity • problem solving/structured approach to problems • consistency • mindfulness • fluent English **Enabling** • flexibility • curiosity • not taking things for granted • cultural understanding • learning agility • ability to learn • resilience • empathy • emotional engagement

The three case-studies
Vicenza, Cernobbio, Parma

ITS meccatronico
istituto tecnico superiore

IATH
INTERNATIONAL ACADEMY
OF TOURISM AND HOSPITALITY
LAKE COMO

PARMA
ITS
ISTRUZIONE TECNICA SUPERIORE
Nuovi saperi per l'Agroalimentare

MECHATRONIC ITS

A role for service design

«You talk about the mechatronics expert… I don't know who he is or what he does. What I do know is that 10 years ago, in order to perform a maintenance job, my company had to send out at least three people: a mechanic, an electrician, and somebody who spoke languages. What we need today is one person who is able to do all three things well. Who is able to travel anywhere in the world, find the problem, understand it and begin to solve it.

In the 30 % of cases where he is unable to deal with the problem alone, he has to know whom to call and, particularly, how to obtain help: to be able to ask the right questions to the right people so as to find the right solution.

You call him a mechatronics expert and you say he is a highly-skilled technician. Great! Every year I'll ask the ITS to produce somebody just like that».

MECHATRONIC ITS

2 profiles

The **highly-skilled technician in the innovation of mechanical processes and products** works in the planning and industrialization sector and also deals with the use of materials. He/she is able to combine different technologies like engineering and electronics. He/she uses his/her competence and practical skills in activities such as the building, testing and documenting automatic processes and installations, has good knowledge of work cycles, command systems, the monitoring and regulation of testing and functioning methods, as well as of the basic concepts of industrialization and breakdown prevention. He/she also plans and manages maintenance activities and takes part in the post-sales actions. He/she interacts and collaborates with the technological units in which he/she is involved.

He therefore has to be able to:

1. *DEVELOP AND INTERPRET PLANNING, PROTOTYPE DEVELOPMENT AND INDUSTRIALIZATION TECHNIQUES*
2. *IDENTIFY MATERIALS, MANUFACTURING PROCESSES AND METHODS*
3. *CHOOSE MANUFACTURING TECHNOLOGIES AND MACHINERY*
4. *MANAGE POST-SALES AND MAINTENANCE REQUIREMENTS*

MECHATRONIC ITS

The **highly-skilled technician in automation and mechatronic systems** works in a sector dealing with building, integrating, monitoring automatic machines and systems meant for many different types of production. He/she uses tools to interface between machines and the programmable systems that control them in order to programme, test and make them function while documenting the various stages. He/she manages command, monitoring and regulation systems.
He/she collaborates with the technological units dealing with the design, production and maintenance of the equipment he/she is called to work upon. He/she also has to deal with economic, regulatory and safety issues.

He/she therefore has to be able to:

1. *DESIGN MECHATRONIC SYSTEMS*
2. *CREATE AND INSTALL MECHATRONIC SYSTEMS*
3. *MANAGE MECHATRONIC SYSTEMS IN MACHINERY*
4. *PROGRAMME AND MANAGE THE MAINTENANCE OF MECHATRONIC SYSTEMS*

MECHATRONIC ITS

The role: going beyond the Ministerial decree

a) Specific cognitive and operational activities (tasks) within the processes

- Knows how to design cycles that include the entire system
- Is able to determine the required parameters and obtain results

b) Expected results and performances

- Is able to solve problems
- Processes are constantly optimized

c) Relationship with others, with the organization, with techologies

- Knows how to find the resources to reach the objective
- Is aware of his limits but is able to work with other people to attain his goal

MECHATRONIC ITS

The role: going beyond the Ministerial decree

d) Required and effective competences and skills

HARD

- Project management
- Problem solving / structured approach to problems

SOFT

- Able to do concrete things *"even as simple as turning a screw"*
- Team work
- Attain goals
- Able to learn

ITS International Academy of Tourism and Hospitality

A role for…

«One can work in small and modest businesses or in the high-flying world of luxury tourism and hospitality; be a waiter in a small trattoria or at the Villa d'Este: there are many different roles, professions and life stories. Our aim is to develop a broad professional profile that can be used in all cases: our students undergo on-the-spot training and learn how to work efficiently and unobtrusively, use digital technologies, learn about all the aspects of hospitality including the intangible ones, how to smile and care for the customer in all situations, work in a team, speak foreign languages, continuously improve both their work skills and themselves. A job that involves both heart and mind. Attending the Academy is also a way of being selected, trained, of entering the sector, acquiring a profession and starting a career».

«My great company participates in the Fondazione ITS because I am from this area and want to contribute to the welfare of my region. Apart from material resources, our contribution consists in transfering our know-how and our well-known ability to enhance our customers' journey: training highly-skilled young people is a way of promoting tourism and hospitality in the area».

ITS International Academy of Tourism and Hospitality

3 profiles

INTERNATIONAL HOTEL AND RESTAURANT MANAGER
(*broadband profession*)
Food and beverage manager
(effective role)

INTERNATIONAL HOSPITALITY AND TOURISM MANAGEMENT
(*broadband profession*)
Reception manager
(effective role)

DIGITAL MARKETING AND COMMUNICATION FOR TOURISM AND HOSPITALITY
(*broadband profession)*
Marketing manager
(effective role)

ITS International Academy of Tourism and Hospitality

The role: going beyond the Ministerial decree

a) Specific cognitive and operational activities (tasks) within the processes

- Versatility as regards all basic tasks

b) Expected results and performances

- Ensure maximum customer experience
- Enhance customer journey

c) Relationship with others, with the organization, with techologies

- Apart from one's own team and entire unit, with the informatics system and social media

ITS International Academy of Tourism and Hospitality

The role: going beyond the Ministerial decree

d) Required and effective competences and skills

HARD

- Business planning
- Management control

SOFT

- Welcoming and smiling approach towards the customer
- Readiness to perform even menial tasks at any time

ITS TECH&FOOD

A role for innovating tradition

«This is Italy's food valley. This is our life's work, and we are good at it.
We know how to mix tradition with innovation just like we mix the ingredients of our products. In order to be competitive, however, we have to work quickly and abide by the rules and procedures that allow us to export our products around the world.
Our work combines careful selection of the ingredients and a great love for the finished product, but also requires precision and the respect of production procedures.
Highly-skilled technical workers make it possible for us to combine production (also in great quantities), compliance (as regards certifications) and innovation (knowing the product and how it will evolve)»

ITS TECH&FOOD

2 profiles

Highly-skilled technician in food design and production technologies:

- Identifies and applies production technologies according to processing procedures;
- Manages food production programmes;
- Deals with issues regarding the quality and safety of food products as well as with the sanitazation of production plants;
- Carries out projects and feasibilty studies aimed at innovating both products and processes;
- Abides by the existing food regulations.

Potential work areas:
Production Programming and Management
Quality Control or Quality Guarantee

ITS TECH&FOOD

2 profiles

Highly-skilled technician in food product marketing and promotion technologies:

- Manages the marketing of food products;
- Promotes *Made in Italy* agri-food specialties;
- Manages relations with large-scale distribution and retail outlets;
- Uses digital marketing and e-commerce technologies;
- Manages supplies and checks the quality of raw and semi-processed materials.

Potential work areas:
Product marketing
Supplies, logistics and distribution

ITS TECH&FOOD

The role: going beyond the Ministerial decree

a) Specific cognitive and operational activities (tasks) within the processes

- Understanding the quality, safety, traceability cycle of the production process
- Integrating production in order to optimize delivery (e.g. cold chain)

b) Expected results and performances

- Overall quality of the process
- Innovation of daily operational tasks

c) Relationship with others, with the organization, with techologies

- Is knowledgeable about all types of production methods, including the more traditional ones

ITS TECH&FOOD

The role: going beyond the Ministerial decree

d) Required and effective competences and skills

HARD

- Knowing how to promote the *Made in Italy* brand on a global scale

SOFT

- Team work
- Capable of fast-paced production work and meeting objectives

Broad professions of highly-skilled technicians

The need to go beyond technical skills

In all the above cases, the existence of Broad Professions would make it easier to develop retraining policies because this would simply involve completing/updating certain specific skills of a series of professions that could find their place in the new system.

Broad professions are characterized by a name under which we find a large scope of theoretical and technical fields, vast work processes, vocational training and development programmes and, occasionally, certification systems and deontological approaches. They include, at the same time, production systems, social institutions, identity systems. They allow organizations to have a flexible management style and help the recognition of a person's professional identity.

Some broad professions are sector-specific; others embrace a variety of sectors.

Broad professions for highly-skilled technicians

The need to go beyond technical skills

All broad professions should be

- **long-lasting,** i.e. able to resist the passing of time and be easily upgraded;
- **solid,** therefore competitive in the labour market;
- **useful to socio-economic systems,** therefore integrated in the production system and the labour market;
- **clear-cut,** therefore easy to manage, train for and develop;
- **transversal,** therefore flexible and not linked to specific contexts;
- **recognizable,** therefore able to constitute a well-defined professional option for potential candidates.

Broad professions for highly-skilled technicians

The need to go beyond technical skills

Three synergistic actions are necessary in order to develop a high level technical training programme:

A. Creation of effective roles

by devising, as already mentioned, Effective Roles for Highly-skilled Technicians which favour the existence and development of technical skills but particularly of decision-making, communication, relational and managerial skills which broaden the professional scope.

B. Organizational planning (regarding work teams and technologies)

by enhancing working and organizational methods which, through the use of network and systems technologies, increased cooperation based on innovation and integration, exchange of information, limitless communication and communities in which working and social lives are optimized.

C. Development of management systems and a new types of labour through training and the validation of broad and diverse skills able to ensure the ability to evolve and adapt, as well as pursue flexible, cross-functional and horizontal solutions.

Broad professions for highly-skilled technicians

Specific broad professions

TOURISM AND HOSPITALITY

- INTERNATIONAL HOTEL AND RESTAURANT MANAGER
- INTERNATIONAL HOSPITALITY AND TOURISM MANAGEMENT
- DIGITAL MARKETING AND COMMUNICATION FOR TOURISM AND HOSPITALITY

FOOD

- HIGHLY-SKILLED TECHNICIAN IN FOOD PRODUCT MARKETING AND PROMOTION TECHNOLOGIES

MECHATRONICS

- HIGHLY-SKILLED TECHNICIAN IN THE INNOVATION OF MECHANICAL PROCESSES AND PRODUCTS

Broad professions for highly-skilled technicians

Transversal broad professions

When adequately developed, specific broad professions can grow and embrace other sectors

For example

- PROJECT LEADERS AND COORDINATORS ABLE TO WORK AND TEACH
- SERVICE SALESPERSONS: EVENTS; PRODUCTS/SERVICES; MAINTENANCE; ETC

And also

- INTERMEDIATE LEADERS SUCH AS COACHES ABLE TO FACILITATE LEARNING