

SHare, Improve, develop: today's excellence for tomorrow's HVET
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Intellectual Output 1 – National surveys

Italy

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Table of contents

1. SUMMARY.....	1
1.1 – English version	1
1.2 – Italian version.....	1
2. DESCRIPTION OF CONTEXT	2
3. NATIONAL EDUCATION AND TRAINING SYSTEM.....	4
3.1 – Short description.....	4
3.2 – Definition of HVET in Italy	9
4. METHODOLOGY FOLLOWED FOR IDENTIFICATION OF BEST PRACTICES.....	10
5.1 DESCRIPTION OF BEST PRACTICE N.1.....	11
5.2 DESCRIPTION OF BEST PRACTICE N.2.....	14

1. Summary

1.1 – English version

The selected best practices refer to training courses delivered by two Higher Technical Institutes (ITS), based respectively in region Emilia-Romagna and region Puglia. They are tertiary, non-academic pathways, leading to EQF 5 Qualifications. Both attain to the mechanics/mechatronics sectors, chosen by their relevance to the economy and the development of involved territories.

The first example relates to **Foundation ITS Maker**, with sites in Bologna, Reggio Emilia, Modena and Fornovo Taro (Parma). It has been considered a good practice thanks to:

- its capability to be part of a precise policy for regional development in a triple helix setting: In fact, region Emilia-Romagna has been investing for many years in vocational training, and especially in HVET. The regional authority set up a network system coupling relevant economic sectors (including smart specialization ones) and a sequence of training pathways, from basic to highly specialised, delivered exactly where industrial districts relating to those specific sectors are located.
- the number, variety and quality of players involved in the Foundation: almost 70 organisations, representing public and private bodies, authorities, businesses, training centres, universities, associations. Among them, worldwide famous names, like Ferrari, Maserati, University of Bologna, etc..
- its ability in involving businesses in all phases of training development: inception, design, planning, delivery, assessment, review: the steering committee is an “engine” able to promptly catch market needs and adjust training offer to match them, providing for highly specialised, ready-to-be-employed technicians.
- Its impact in terms of training success and employability: in 5 years students boosted from 20 to 300, with dropping-out percentages basically zero, and percentages of coherent employment after 6 and 12 months practically at 100%.

Main problems encountered rise from:

- funding channels (only public, hence subject to changes and cut-offs induced by the economic situation);
- the consequent low availability of own human and material resources;
- and the yet partial acknowledgment granted to correspondent qualifications, still not perceived in its full value by families and by some companies, and not yet included in any national labour contract. This causes a kind of “identity crisis” in students, about their role when entering the labour market.

The second example relates to **Foundation “A. Cuccovillo”**, based in Bari. It has been considered a good practice thanks to:

- its capability to stand out in a region of southern Italy, traditionally considered “less able to innovate” compared to northern regions;
- its capability to network with local, national and international companies, as well as with other ITS and with the European Union;
- its performance at a national level: in a ranking drafted by the Italian Agency of Ministry of Education in 2015, the Foundation scored 2nd out of 63, and definitely 1st in its sector. Such ranking is based on indicators relating to training, employment, stakeholders involvement indicators.

1.2 – Italian version

Le buone prassi identificate si riferiscono ai corsi erogati da due Istituti Tecnici Superiori (ITS), basati rispettivamente in Emilia-Romagna e in Puglia. Si tratta di percorsi terziari, non universitari, che si collocano al livello EQF 5. Entrambi afferiscono al settore meccanico/meccatronico, selezionato per la sua rilevanza nell’economia dei territori relativi.

Il primo esempio riguarda la **Fondazione ITS Maker**, con sedi a Bologna, Reggio Emilia, Modena e Fornovo Taro (PR), ed è stato considerato una buona prassi:

- per il modo in cui si inserisce e risponde ad una precisa politica regionale di sviluppo del territorio in ottica di tripla elica: la Regione Emilia-Romagna, infatti, investe da anni nell’ambito della formazione professionale, in particolare della formazione professionale superiore. Ha infatti costruito un sistema di rete per cui ad ogni settore economico rilevante del territorio, ivi inclusi i settori della smart

specialization strategy, corrisponde una sequenza di percorsi formativi, da quelli di base a quelli più specialistici, erogati esattamente nel territorio in cui risiedono i distretti di quel settore.

- per il numero, la varietà e la qualità dei players che compongono la Fondazione che eroga i percorsi: circa 70 enti, tra pubblici e privati, in rappresentanza di autorità pubbliche, aziende, enti di formazione, università, associazioni. Tra questi, nomi di fama mondiale come Ferrari, Maserati, Università di Bologna, ecc..
- per la capacità di coinvolgere le imprese in tutte le fasi di sviluppo del percorso formativo, dall’ideazione alla progettazione alla realizzazione al riesame: il comitato di indirizzo della Fondazione è un “Motore” in grado di recepire tempestivamente i fabbisogni delle imprese ed adeguare l’offerta formativa alle richieste, per fornire tecnici altamente specializzati ed immediatamente occupabili dal mercato.
- per il suo impatto in termini di successo formativo e di occupabilità: in 5 anni il numero di iscritti è passato da 20 a 300, con percentuali di drop-out sostanzialmente pari a zero, e percentuali di occupazione pertinente a 6 e 12 mesi praticamente pari al 100%.

I principali problemi incontrati derivano:

- dai canali di finanziamento (essenzialmente pubblici e quindi soggetti alle variazioni ed ai tagli che la situazione di crisi economica comporta);
- dalla conseguente indisponibilità di risorse umane e di sede proprie;
- e dalla ancora parziale riconoscibilità del titolo, che non è percepito nel suo completo valore dalle famiglie e da alcune aziende, ed allo stesso tempo non è inserito in alcun contratto nazionale di lavoro, causando nei diplomati una sorta di “crisi di identità” rispetto al ruolo con cui inserirsi sul mercato.

Il secondo esempio riguarda la **Fondazione “A. Cuccovillo”**, con sede a Bari, considerata una buona prassi:

- per la capacità di eccellere in una regione del sud Italia, tradizionalmente considerata “meno capace di innovare” rispetto alle regioni del nord;
- per la sua capacità di fare rete con le aziende del territorio e con gli altri ITS dello stesso settore, nonché di aprirsi al livello europeo;
- per i risultati ottenuti su scala nazionale: nella graduatoria stilata dall’Agenzia Nazionale del Ministero dell’Istruzione in Italia nel 2015, la Fondazione è risultata seconda in assoluto, e nettamente prima nel settore meccanico/meccatronico. La valutazione è stata effettuata sulla base di indicatori di performance formativa, occupazionale, di rapporti con le imprese.

2. Description of context

This survey presents practices from two Italian regions, Emilia-Romagna and Apulia (in Italian “Puglia”), quite different in context and socio-economic indicators. For example, as to the EU regional and cohesion policy, Emilia-Romagna is among the more developed regions, while Apulia is among the less developed.

Emilia-Romagna

Emilia-Romagna is a leading region in Europe in terms of entrepreneurship and economic dynamism. The regional GDP is one of the highest in Italy and in Europe (€126,465m in 2013) and the unemployment rate is with respect to the national average. Over the period 2000-12 Emilia-Romagna GDP accounted on average to €116,577m with an annual growth rate of 2.4%. However, in 2008 and 2009 Emilia-Romagna economy was deeply affected by the global economic crisis and in the 2009 regional GDP fell by 4.7%.



There are 387,000 enterprises located in the region (4.480m in Italy). Like in the rest of the country, the majority of enterprises has less than ten employees (94.2%), but in Emilia-Romagna the distribution of economic activities is much more concentrated towards industrial sectors than in services and agriculture (27.6% vs. 10.9% in Italy). Employment in industry is 35% and 42% of regional industrial activities are

manufacturing activities, prevalently concentrated in low-tech sectors. The main regional manufacturing industries are metal products, machinery and electrical and electronic equipment (which all together account for 43% of manufacturing activities), textiles and garments (15%) and the food industry (13%). Regional manufacturing activities are geographically concentrated in several industrial districts (12 in total). The region is generally considered to offer a favourable environment for businesses: it is a good example of successful institutional public-private sector cooperation involving political, social and economic actors. The regional system relies on intensive and complex networks involving private businesses, government agencies and research institutions. According to the results of the Regional Innovation Scoreboard 2014, Emilia-Romagna is an 'Innovation Follower' region whereas Italy is rated as a 'Moderate Innovator' country. Emilia-Romagna improved considerably its innovation performance over the period 2004-2010, being in the group of top performing European regions by growth (+2.5-15%). The regional performance in the absorption of the allocated SF funding (under RTDI priorities) during the programming period 2007-2013 was excellent and above 100%.

Puglia

Puglia is a region located in south-east Italy with a population of about 4m inhabitants. Puglia has a low rate of industrialisation and its contribution to the national GDP is modest. Yet Puglia is considered as the most dynamic region in Southern Italy and, although investment in R&D is below the national average, regional authorities have recently promoted several initiatives in support of innovation activity in the region. The focus of innovation policy is on the creation of productive and technological districts, on networking between research institutions and on human capital formation. Together with Emilia-Romagna, Puglia was the first Italian region to implement a Smart Specialization Strategy.

Puglia lags behind the national and European economy in terms of economic development. GDP per capita was on average just €15,761 in 2011 among the lowest in the country and corresponding to 67% of national GDP per capita (€23,470).

Over the period 2000-2011, the growth rate of the GDP per capita was -3.4%, shrinking at a faster rate than the national average (-2.3%). Although Puglia is considered one of the most dynamic regions in Southern Italy, over the period 2000-12 the convergence of gross GDP to national values was weak, especially because of sluggish productivity growth (+1.7 vs. +2.3%). The unemployment rate in Puglia is very high, well above the national average, having grown sharply during the economic crisis (+80%).

Agriculture is much more important in economic terms in Puglia than in the rest of the country. Puglia is an export leader of wheat, olive oil and tomato. The industrialisation rate is below the national average (26% vs. 31%) whilst employment in agriculture is above the national average (10% vs. 5%). The share of employment in manufacturing of food products is higher than in the rest of the country. The greatest manufacturing specialisations are found in the manufacturing of food products, textiles and metal products. The greatest geographical concentrations of enterprises are found in the two provinces of Bari and Lecce.

Labour productivity varies widely being lowest in agriculture and highest in the services sector. Since 2005, increases in productivity have been noted especially in industry, which has thus generally improved its competitive position both at home and abroad.

Source: European Commission, <https://ec.europa.eu/growth> (last accessed 18.02.16)

Further context data are provided for both at next page, also comparing them with national and EU figures.

Indicator		EU		Italy		Emilia-Romagna		Puglia	
Geography	Surface (km ²)	4.494.515		302.073		22.453		19.541	
	Capital	-		Rome		Bologna		Bari	
Demography	Population (x1.000)	506.545,8		60.795,6		4.450,5		4.090,1	
	Foreign residents	6,7%		7,4%		12%		2,7%	
	Life expectancy	77,8	83,3	80,2	84,9	80,9	85,4	80,4	84,8
Education and Training	Public expenditure for E&T (% of GDP)	5,3%		4,2%		2,6%		6,1%	
	Participation in E&T (20-29)	28,9%		21,4%		28,1%		15,9%	
	Early school leaving	12,0%		17%		15,3%		19,9%	
	Tertiary education (30-34)	36,9%		22,4%		27,9%		20,8%	
	Adults (25-64) in LLL	10,5%		6,2%		6,6%		4,8%	
	NEET (% over 15-29)	15,9%		26,2%		20,6%		33,4%	
Labour	Employment rate (15-64)	64,9%		55,7%		66,3%		42,1%	
	Unemployment rate (15-64)	9,0%		11,4%		8,3%		21,5%	
	Youth unemployment rate (15-24)	22,2%		42,7%		34,9%		58,1%	
Research and innovation	Tertiary graduates in Science and Technology	17,1%		13,2%		18,7%		6,7%	
	Gross domestic expenditure for R&D (% of GDP)	2,01%		1,31%		1,64%		0,84%	
	Patent applications to the EPO	108,6		62,2		127,4		13,2	
	Production specialization in High-Tech sectors	3,9%		3,4%		2,7%		1,6%	

Source: ISTAT – Italian National Institute of Statistics, <http://www.istat.it/it/archivio/16777> (last accessed 18.02.16)

3. National Education and Training System

3.1 – Short description

The Italian education and training system is divided in pre-primary school, first cycle of education, second cycle of education, and higher education. Full-time education is compulsory and free for 10 years for all children between usually 6 and 16.

It begins with the first cycle, which includes primary and lower secondary education. This cycle takes 8 years: five years of primary education and three of lower secondary education, and is subdivided into 5 learning periods of one or two years. It. On completion of the cycle, a diploma is given as a result of a State examination, the “*Diploma di licenza conclusiva del primo ciclo di istruzione*” (Lower secondary school leaving diploma) EQF level 1.

The second cycle of education includes pathways of various duration, divided into two main branches: Upper secondary education, under the competence of the Ministry of Education, taking 5 years, and Vocational Education and Training under the competence of Regions, taking 3 or 4 years. Within the second cycle, at the age of 15, students complete their compulsory school period and receive a Compulsory education certificate, EQF level 2, and then continue to fulfil the right/duty to education and training. Under the current educational law the right/duty to education applies for 12 years, from 6 to 18, or until the student obtains a vocational qualification by the age of 18. The right/duty to education and training can be fulfilled also in the regional VET system or in apprenticeship programmes aimed at obtaining a VET qualification. There are

three types of Upper secondary schools: “*Licei*”, “*Istituti Tecnici*”, “*Istituti Professionali*” (Licei, Technical Institutes, Vocational Institutes). Licei offer a wide range of pathways: artistic, classical, human sciences, linguistic, music and dance, scientific. Some of them offer further options, such as economy or applied sciences. Technical and Vocational Institutes also offer a wide range of specializations and options in the Economic and Technological sectors (technical schools), in the Services and Industry and Crafts sectors (vocational schools). All Upper secondary school paths lead to a Diploma, EQF level 4, upon successful conclusion of a State examination. An Upper secondary school diploma is the minimum requirement to enter Higher Education programs.

As far as Social Partners are concerned, the Framework Law 845/78 gave social partners a major role to play in the vocational training system, recognising them as partners of the Regions for the planning of training, as well as potential providers of training schemes. There are three levels of responsibility for VET in Italy: at national level the institutional framework is defined, at regional level a direct intervention in the process of defining, planning and provision of VET strategies is implemented, and at enterprise level training activities and the elaboration of training plans are defined. Roles at all levels are advisory.

The VET system, which falls under the competence of the Regions, is part of the national education and training system, and is organized in two basic pathways: three-year courses, leading to the award of “*Attestato di qualifica di operatore professionale*” (Professional operator certificate) EQF level 3, and four-year courses, leading to a “*Diploma professionale di tecnico*” (Professional technician diploma), EQF level 4. The first two years of study provide guidance for students about vocational specialization, in order to raise their awareness about the chosen path. At the end of three-year and four-year vocational education and training pathways, after passing a final examination in accordance with regional regulations, a Qualification of Professional Operator and a Certificate of Professional Technician are issued. These qualifications can be also gained after an apprenticeship period aimed at a vocational qualification or a certification.

VET usually begins with a two-year basic study program, followed by a yearlong (third year) professional qualification in a specific field. The first two years of study provide guidance and awareness for students about vocational specialization, in order for them to be certain about what path to follow professionally during the third year. The study course may be concluded at the end of the third year, with the acquisition of a professional or experience qualification certificate, allowing the pupil to deepen his knowledge and experience in a two-year course, the “*post-qualification*” (*post-qualifica*), successfully achieved through the completion of the State Exam (*Esame di Stato*).

The path to be followed depends on the typology of education followed. Two types of institutions provide VET in Italy:

- VET centres (*Centri di formazione professionale*), providing a two- or three yearlong study program with subjects mainly related to the field of speciality chosen by the candidate.
- Vocational state schools (*Istituti professionali statali*), with a more complex study program. These institutes provide a more detailed study program that can take up to five years, but providing also intermediate specialities in several fields of study.

The qualifications released under the regional system are recognized at national level. A National Register of qualifications awarded in the VET system was created in 2011. It is made up of two-level professional figures (Professional operator and Professional technician), that can be further subdivided into specializations and regional profiles. The training provision is designed by Regional authorities and implemented by accredited training providers, but State vocational schools can provide subsidiary, integrative or complementary training through specific State–Region agreements. Part of training in all VET courses, national or regional include periods of work-based learning. Students complete their 10-years compulsory education period after two years in the second cycle of education. From the age of 15 they can fulfil this obligation through an apprenticeship contract for a VET qualification.

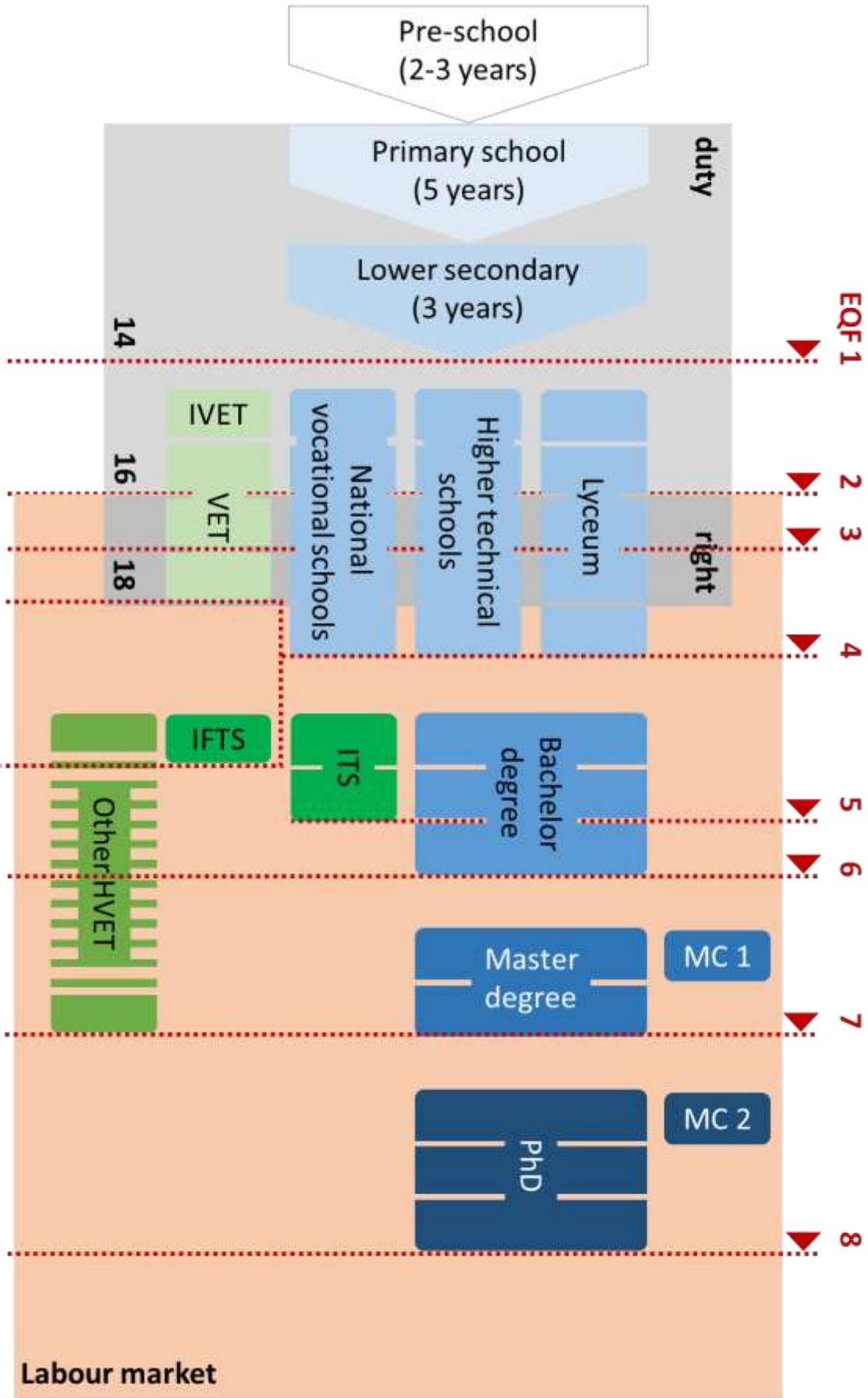
Practices presented in this document at chapter 4 refer to the HVET system. More precisely, they are “*Programmi di Istruzione Tecnica Superiore*”, that is, Higher Technical Education and Training Programmes,

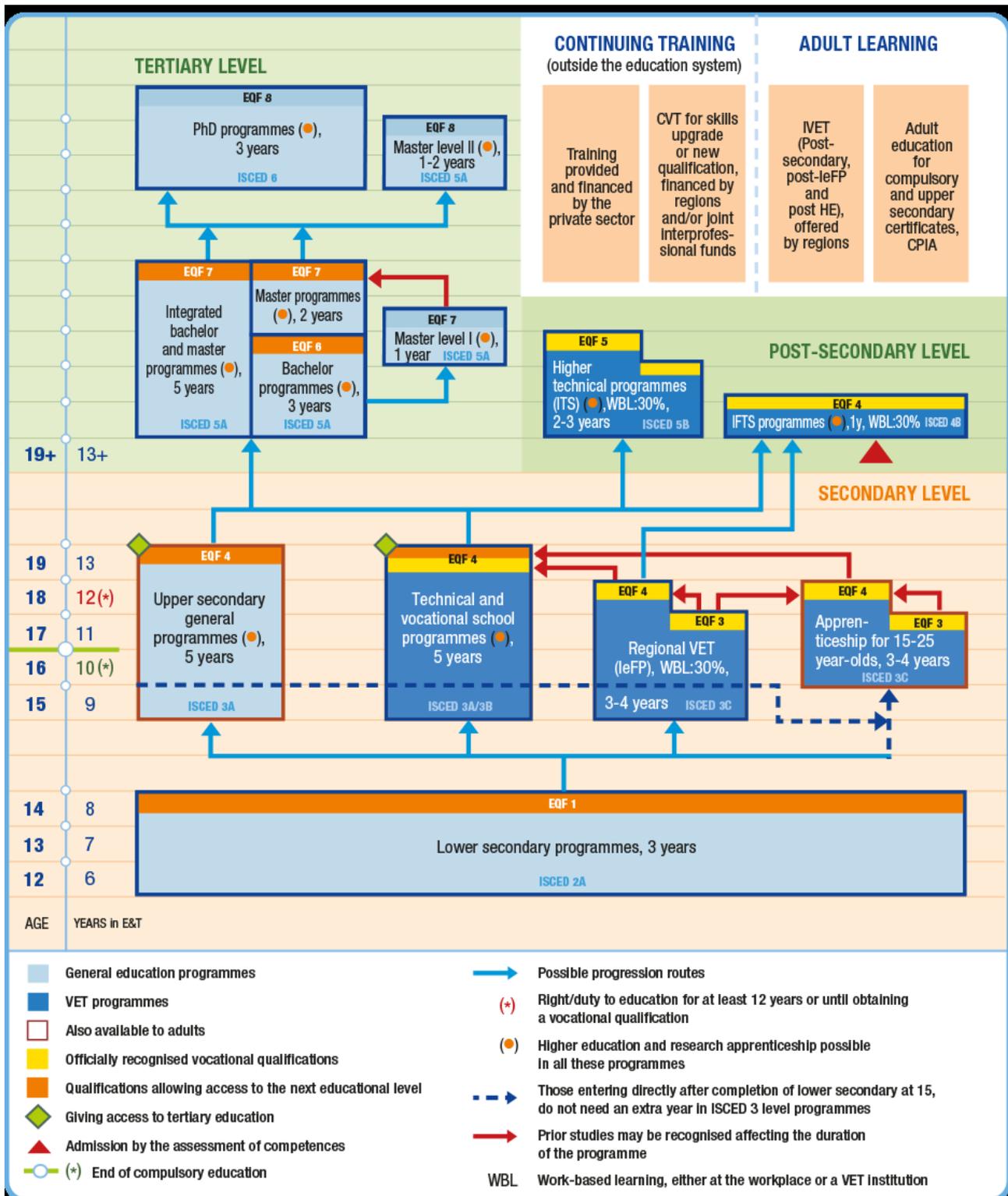


delivered by “*Istituti Tecnici Superiori*”, that is, Higher Technical Institutes (see 3.2 below). These are established on the basis of Regional Territorial Plans and are managed as a participative Foundations, including State and Regional and other local authorities, universities, enterprises, training centres. ITS can be attended by young people and adults holding an Upper secondary education Diploma. At the end of ITS courses, a “*Diploma di tecnico superiore*” (Higher technical education diploma), EQF level 5, is issued. These qualifications, awarded by the Ministry of Education, concern specific, nationally defined areas of high technological innovation.

In short, best practices considered here fit into EQF level 5, are governed jointly by the Ministry of Education and Regional authorities, and the final certificate is issued by the Ministry of Education.

Graphics at next pages show synthetically major features of the Italian system.





Source: CEDEFOP – Vocational education and training in Italy – Short description, Luxembourg 2014, ISBN 978-92-896-1656-0

3.2 – Definition of HVET in Italy

At post-secondary level, the Italian system features higher technical training (IFTS, ITS) and short programmes or courses (post-IVET). VET courses also exist at post-higher education level. Hence, we can identify basically four categories:

1. **Higher Technical Education and Training courses (IFTS):** Higher technical education and training programmes are available in 20 specialisation areas at national level. The specialisations are described in terms of minimum education standards, adopted at national level (decree of 7.2.2013), and may be further defined at regional level, according to the specific local labour market conditions. Corresponding qualifications are issued at EQF level 4. These programmes also include common skills in the relational and managerial areas. A compulsory internship is included, accounting for 30% of the total workload. At least 50% of the teachers must come from the world of work or have practised the profession in the field. They usually last about 1 year (800-1.200 hours). IFTS programmes are planned by the regions and must be delivered by at least four VET providers from the school system, vocational training, university, business sector by exploiting the added value of integrating complementary systems; they may either set up a formal partnership – depending on regional guidelines – as a temporary association or as a consortium.

A recent ISFOL survey on labour market outcomes of IFTS former students (ISFOL, forthcoming) shows that between 2010 and 2013, 5.960 students were enrolled in the 249 IFTS courses offered in the 10 regions surveyed. Of these, 57.3% were employed in the last quarter of 2013. Compulsory internship played a key role in their employment. Further, 26% of the students received a job offer from the company where they did their internship, 84% of former IFTS students declared themselves to be in stable and continuous employment, and 51.1% of these declared that their job is in line with the education and training received under IFTS.

2. **Courses at Higher Technical Institutes (ITS):** These offer non-academic training opportunities at tertiary level, for a total of 29 national professional profiles, as identified and described in the inter-ministerial decree of 7 September 2011, laying down general rules for ITS diplomas and related national professional profiles, assessment and certification of skills, and supplemented by ministerial decree of 5 February 2013 (Decree 82/2013). These programmes train specialised technicians in six technology areas considered strategic for the country's development. Both young people and adults with at least an upper secondary education diploma can access ITS programmes. They also represent one of the possible ways to complete an apprenticeship programme (12) with the purpose of promoting young people's return to the VET system. At least 50% of the training must be delivered by providers from the labour market and the professions. They can last two or three years. Corresponding qualifications are issued at EQF level 5. ITS are set up as foundations (*Fondazione di Partecipazione*). The national legislation provides that the founders include:
 - a higher secondary education institution, either private or public that, in keeping with Article 13 of Law 40/2007, belongs to a technical or vocational association (based in the foundation province);
 - a training provider accredited by the region for higher education (based in the foundation province);
 - an enterprise in one of the sector covered by the ITS;
 - a university department or other body;
 - a local authority (municipality, province, metropolitan city, mountain community).

At present 86 ITS are active, offering 222 programmes.

3. **Post-IVET programmes:** People who have completed the three- or four-year VET courses and those who have obtained an upper secondary diploma can access specific training organised by regions or the autonomous provinces. These training courses are generally targeted at young unemployed people, adults, migrants and the disabled. They generally last 400 to 600 hours and are jointly financed by the European Social Fund (ESF). Upon completion, a regional vocational certificate commonly referred to as a 'second level qualification' is awarded. These courses aim at the acquisition of theoretical, technical

and managerial skills, though practical work is included and completion of a traineeship is generally required. These courses are organised by training centres accredited by the regions and are not homogeneously offered in the country. They lead to a qualification certificate awarded by the regions according to their own specific register, not recognised nationally. Indeed, there is no national register of qualifications for regional courses yet. Corresponding qualifications may vary from EQF level 4 to 7.

4. **Post-Higher education VET:** Those who have completed a university degree can access post-higher education courses offering a specialisation in a given field. These are organised by regions or the autonomous provinces and last between 400 and 600 hours (rarely two years), leading to a regional qualification that corresponds to specific occupation areas not listed in the national register of qualifications. At times these courses may be exclusively addressed to disadvantaged groups (such as migrants, Roma population, disabled people, certain age groups) with the aim of increasing their labour market integration. Corresponding qualifications may vary from EQF level 4 to 7.

4. Methodology followed for identification of best practices

These are the main criteria followed in selecting the proposed best practices:

- **relevance of topic for local market**
In order to better exploit findings and outcomes of this survey, we chose examples relating to Mechatronics and automation, a topic strongly relevant to our local market.
- **attractiveness (increasing number of students)**
We chose two examples of courses whose number of students has constantly grown up since their very beginning, thus showing their relevance to potential beneficiaries.
- **link with local labour market systems**
Both examples chosen include leading companies in respective markets and have proven great capacity of dialoguing with the local, regional and even national labour market.
- **capacity of matching labour market needs in terms of skills/competences**
We considered the ability of answering market needs as one of the key success factors of proposed practices. Both examples chosen exploit a strong involvement of the local industrial system in planning, running, assessing and reviewing their programmes.
- **employability (coherent employment rates after completion)**
Both examples chosen show a robust rate of employment at 6 and 12 month after completion of the programme, almost equalling 100%.
- **success of public/private partnership governing the course**
We considered governance systems as a further key success factor for ITS courses. Thus, we chose two practices where public and private stakeholders found a very efficient way to co-operate. In the case of Emilia-Romagna region, this is part of a specific regional development policy.
- **geographic coverage**
Italy is a large country compared to EU average, with relevant differences between north and south. Thus, we decided to choose one example from either part of the nation, in order to favour dissemination and exploitation of subsequent results on a broader scale.

It is worthwhile mentioning that the Italian Ministry of Education set up its own assessment system, to evaluate the functioning of ITS courses. According to this system, courses are evaluated on a yearly basis, according to a set of criteria (partly overlapping the ones described above): attractiveness, employability, percentage of WBL, involvement of companies. The Italian National Agency for Education (INDIRE) publishes a yearly rating of ITS courses, based on such indicators. Best performing ITS are also granted a funding incentive. The best practices we selected rated respectively 2nd (scoring 87,14/100) and 9th (83,87/100) overall, and 1st and 3rd among mechanic/mechatronic courses (being the 2nd the one described by partner P2 – SIAV in Region Veneto).

5.1 Description of best practice n.1

Title

ITS Maker – Istituto Tecnico Superiore Meccanica-Meccatronica-Motoristica e Packaging

Title in English

ITS Maker – Higher Technical Institute for Mechanics-Mechatronics-Vehicle motors-Packaging

Sector

Industry

Sub-sector(s) covered

Mechanics, mechatronics, automation, materials, engines, packaging

Location

Region Emilia-Romagna, 4 sites: Bologna, Modena, Reggio Emilia, Fornovo Taro (Parma).

Web site

<http://www.itsmaker.it>

Players involved

The Foundation counts many associates, among which:

- 43 primary local and national companies (including Maserati, Ferrari, etc.);
- 10 upper secondary Technical and Vocational Schools
- 10 Training centres (including IFOA)
- 2 Universities (Bologna and Modena/Reggio Emilia)
- 6 Public authorities (Municipalities and NUTS3 level)

Date of foundation

December 2010.

Since September 2013 three previous Foundations merged into the single ITS Maker Foundation.

Specific regional context

Region Emilia-Romagna is paying a special attention to Vocational Training in a LLL perspective. With its regional law n.775/2011, region Emilia-Romagna established its so-called “Polytechnic Network”, structuring and co-ordinating the HVET offer on its territory. By mixing ESF, national and regional public resources, such network supports all types of HVET programmes (see above, 3.2): IFTS, ITS, other HVET. In this framework, the Region encouraged the development of ITS foundations delivering programmes strictly linked to Smart Specializations, corresponding to existing industrial districts. Especially regarding ITS programmes, the region is co-ordinating all activities on the territory. Thus, the public system is strongly supporting this programmes, with a well-oriented mind set and attitude. At the same time, the entrepreneurial system is quite aware of the need to invest in training new and skilled human resources.

Governance of the partnership with regard to the learning pathway

The Foundation organs are as follows:

- President: is the legal representative of the foundation. He presides over the Executive Board, the Steering Committee and the Assembly of Participants.
- Executive Board: consists of five members, representing respectively different categories of founding bodies: companies, public administrations, training centres, upper schools.
- Steering committee: the body who makes decisions concerning the core regulations at the heart of the life of the Foundation, to ensure that its aims are achieved. It is composed by 15 members coming from all categories of stakeholders.
- Assembly of members: gathering all members.
- Director: operative „arm“ of the Executive Board and Steering Committee, puts into practice guidelines expressed by governing bodies.

How the learning pathway is designed

The learning pathway has been designed together with companies from its very beginning. The Steering Committee, representing all stakeholders, stands as a permanent table, who first defined profiles and competences when the programmes started, and now meets on a yearly basis to officially review the curricula, due to two main reasons:

- topics at the heart of programmes are quite innovative, and subject to continuous changes;
- every year the Regional authority (who finances ITS programmes) requires Foundations to review and update their training offer: proposals must pass the regional examination to be funded.

Also detail design is continuous and cross-cutting, based on company and student needs. That is quite a challenge, as companies very often know and describe their present needs, with a short time perspective, while training design usually requires a medium-/long-term one. In order to overcome this obstacle, the Foundation is setting up a second, permanent table focussed on innovative technical competences, but also on cross-cutting issues, like product and process innovation, aiming at better understanding labour market trends, as well as broadening the scope of design vision.

Participation is totally free of charge for students, funded 30% by the Ministry of Education and 70% by the Region.

Indicators

Main relevant indicators for ITS Maker are:

- Attractiveness: starting with 20 students in 2010, the Foundation has now over 300. The original 3 programmes delivered in 2010 grew up to the present 5 courses.
- Employability: 100% of students entering the labour market are employed in positions corresponding to their diploma after 6 months. 100% of students reaches the diploma on time. No drop-outs. Only a few percent enrolls to university, the vast majority is quickly employed.
- Feedback from students and companies: the Foundation developed its own feedback system. Satisfaction rate is over 85% both for students and for companies (regarding internships carried out in the curricula). The Foundation is also setting up a set of questionnaires for getting companies' feedback 1 and 2 years after employment of graduates.
- National feedback: as mentioned before, the ITS ranked 9th in Italy and 3rd among sector courses in 2014.

Training programme structure

Five programmes are delivered, corresponding to the following professional profiles and EQF level 5 qualifications:

- Higher technician for automation and packaging (Bologna)
- Higher technician for mechatronic systems (Reggio Emilia)
- Higher technician for innovative product design, by means of advance composite materials and additive manufacturing technologies (Fornovo Taro)
- Higher technician in vehicles, specializing in endothermic, hybrid and electric engines (Modena)
- Higher technician in materials (Modena)

All programmes train to soft, cross and technical skills. Actually, companies are acknowledging a growing relevance to transversal skills (autonomy, teamworking, problem solving, foreign languages (English), etc..), so curricula are being adapted to such needs.

All courses have a duration of 2.000 hours over two years. 40% of programme is delivered via WBL, through internships in companies, domestic or abroad. Internship periods are included in both years.

For further details and full programmes description, please refer to: http://www.itsmaker.it/en/i_corsi/

Training methods

Training methods vary greatly, depending on learning objectives, and include:

- frontal lessons
- in-company lessons
- workshops
- teamworking

- internships and work-based learning
- company visits and visits to exhibitions
- etc.

Management of training

Trainers are selected through a regional bid. First, they must apply and fulfil specific requirements, like for example a minimum experience (3 years teaching, if coming from schools/university; or 5 years experience, if coming from the labour market). Second, a further selection is carried out by an internal commission, appointed by the Foundation. Selected trainers are included in a public roster. Their performance is then evaluated by students via a specific questionnaire. Co-ordination of training programmes and correspondence with learning outcomes is ensured by the Executive Board.

The Foundation is strongly investing on training of trainers and of internal staff. For instance, a labour psychologist is supporting the staff in their work with students, and several initiatives for sharing of best practices are in force, with a view to the development of a TQM system.

Management of relationships with triple helix stakeholders

ITS Maker performs a kind of “distributed governance” of this topic: relationships with stakeholders are kept at several levels, and depending on everyone’s responsibilities: President, Executive board, Director, but also site co-ordinators and tutors. The number of stakeholders is broad, nevertheless access to membership is always possible for new bodies.

Problems encountered

1. ITS are somehow a new training channel, not yet fully in the “collective consciousness” of all Italian families and companies. Corresponding qualifications are not included in national collective labour agreements, so graduates experience some difficulties in recognition of their actual level of preparation. Especially when they are employed by companies not members of the Foundation.
2. ITS are funded exclusively by public sources. It is quite hard for the Foundation to raise private funding. So, they cannot afford own personnel, nor own premises; on the opposite, they must borrow human and real estate resources at member training centres. That reduces medium- and long-term perspectives.
3. ITS courses are somehow competitors to bachelor degrees. Universities, even if involved in ITS Foundations, do not always look with favour at them.

Possible solutions

It is necessary to gain more visibility and acknowledgeability, to make the ITS diploma better recognised and valued by families, and included into national labour contracts. Talkings with the Italian Ministry of Education are on-going regarding this.

More, ITS pertaining to Mechanics/Mechatronics started grouping into a national network in 2014, aiming at gaining more power at a national level. A recent meeting in Bologna, hosted by ITS Maker in January 2015, gave the chance to discuss possible developments with many different stakeholders, including national authorities.

The Foundation’s efforts are also targeted to upper secondary schools and universities, in order to ensure continuity upstream and downstream.

Last but not least, the Foundation is discussing with member companies possible ways to raise further financial support on the private side.

Expectations about possible future developments

- Setting up a more stable, durable structure (e.g. as to funding, human resources, buildings).
- Becoming more and more a hub between education and work. In ITS courses the “dual approach” is normal, while in schools (even technical ones) it is not.
- Promoting ITS courses and students as “innovation service providers” for the territory. Fostering the capacity of the Foundation to provide for applied research activities to the benefit of SMEs who do not have/cannot afford dedicated internal resources.

5.2 Description of best practice n.2

Title

ITS Area Nuove Tecnologie per il Made in Italy Sistema Meccanico – Meccatronico (Energia) Puglia “A. Cuccovillo”

Title in English

ITS for New Technologies for Made in Italy – Mechanic – Mechatronics System (Energy) Puglia “A. Cuccovillo”

Sector

Industry

Sub-sector(s) covered

Mechanics, mechatronics, energy

Location

Region Puglia, Bari.

Web site

<http://www.itsmeccatronicapuglia.it>

Players involved

The Foundation counts many associates, among which:

- 19 primary local and national companies (including Bosch Italy, etc.);
- 4 upper secondary Technical and Vocational Schools
- 2 Training centres
- 2 Universities (University of Bari and Polytechnic of Bari)
- 3 Employers associations
- 1 Public authority (NUTS3 level)

Date of foundation

2010.

Governance of the partnership with regard to the learning pathway

The Foundation organs are as follows:

- President: is the legal representative of the foundation. He presides over the Executive Board, the Steering Committee and the Assembly of Participants.
- Executive committee: the body who makes decisions concerning the core regulations at the heart of the life of the Foundation, to ensure that its aims are achieved.
- Board of Trustees: gathering all members.
- Technical Scientific committee: providing for technical guidance.
- Director: operative „arm“ of the Executive Board and Steering Committee, puts into practice guidelines expressed by governing bodies.

How the learning pathway is designed

The learning pathway has been designed together with companies from its very beginning. The Steering Committee, representing all stakeholders, stands as a permanent table, who first defined profiles and competences when the programmes started, and now meets on a yearly basis to officially review the curricula.

Indicators

Main relevant indicators for ITS Maker are:

- Attractiveness.
- Employability.
- National feedback: as mentioned before, the ITS ranked 2nd in Italy and 1st among sector courses in 2014.

Training programme structure

Two programmes are delivered, corresponding to the following professional profiles and EQF level 5 qualifications:

- Higher technician for integrated automation and mechatronic systems
- Higher technician for innovation of mechanical processes and products

All programmes include specific training units on soft and cross skills, like English language, communication, project management, teamworking, problem solving, negotiation techniques.

All courses have a duration of 2.000 hours over two years. 40% of programme is delivered via WBL, through internships in domestic companies. Internship periods are included in both years.

For further details and full programmes description, please refer to:

<http://www.itsmeccatronicapuglia.it/wp-content/uploads/2013/05/REGOLAMENTO-DIDATTICO.pdf>

Training methods

Training methods vary greatly, depending on learning objectives, and include:

- frontal lessons
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- workshops
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- etc.

Management of training

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Management of relationships with triple helix stakeholders

Relationships with stakeholders are kept at several levels, and depending on everyone's responsibilities: President, Executive board, Director, but also co-ordinators and tutors.

The Foundation, like ITS Makers, is among the founding members of the Italian network of Mechatronics ITS providers.

Special links towards university

ITS "A. Cuccovillo" developed a permeability system, in order to ease access to university after graduation in its courses. Based on agreements with local universities, comparison tables has been devised, in order to easy identify credits spendable in bachelor and master degrees, where required.

A window on the EU

ITS "A. Cuccovillo" has been granted a ECHE in year 2015.