

## Charter of Smart Education for Smart Cities and Smart Regions *(draft)*

### **Introduction:**

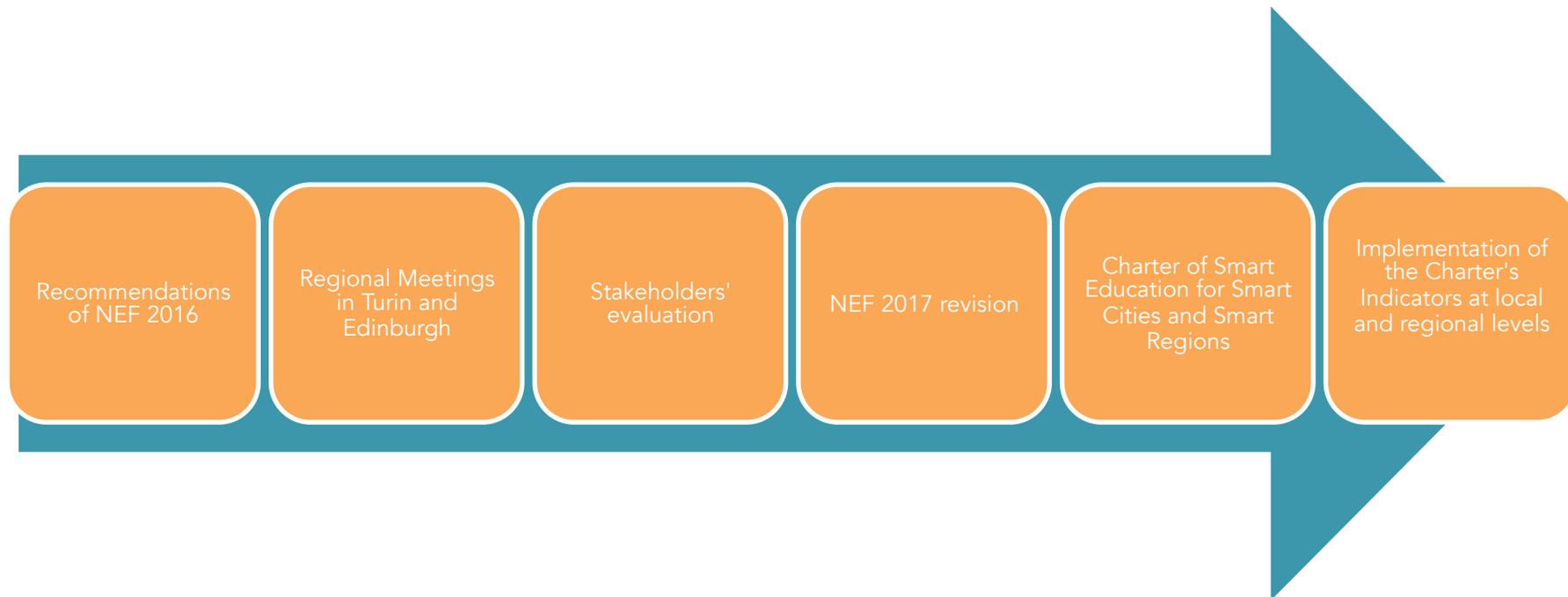
There is a predominant opinion that the education systems in Europe have been lagging behind the fast pace of technological, scientific and economic changes taking place in recent years. As such, the systems are not meeting either the expectations or needs of their communities, particularly those of parents, employers, and - most importantly – youth. The heavy dependence of current education on simplistic performance indicators such as class attendance, the number of courses taken, or an increasingly lower passing grade based on multiple-choice questions, does not prepare students to possess the basic knowledge, skills and attitudes in order to think critically and be able to resolve practical problems and thus succeed in their adult lives. In addition, the rigidity of the prevailing education systems does not allow incorporating either the newest scientific achievements, including neuropedagogy applied to the learning process or the newest technologies offering more flexible and effective learning.

However, the worst feature of the current education systems, one which can be observed in many countries, is the imposition of ideologically-based curricula of the ruling party with strictly enforced mechanisms which deprive ambitious teachers of the freedom to experiment, innovate and inspire their students. Instead, the teacher is treated as the basic and non-questionable source of knowledge, who is supposed to transfer it rather passively to students. This way the systems shape passive and dependant citizens, instead of active and creative participants in civic and economic life. Consequently, the education systems must undertake deep reforms to adjust to XXI century requirements, with the active involvement of all major stakeholders.

Municipal and regional governments, facing real problems of their communities and forced to resolve them immediately, understand much better than national governments the need for effective education programs producing graduates with modern knowledge, practical skills and collaborative attitudes. This understanding means that, “The capacity to support skill-up and startups will be key to economic development. Every city in the world shares the need to make rapid, broad-based improvement in employment-related skills. That should make education—from early learning to job training—a top regional priority” wrote Tom Vander Ark and Mary Ryerse (1)

## Origins and aims of the Charter

The Charter of Smart Education for Smart Cities and Smart Regions results from Recommendations presented at the New Education Forum (NEF) 2016 by the Center for Innovative Education. It was later enriched during Regional Meetings of NEF in Turin and Edinburgh in 2017 in the scope of transversal competencies, vocational learning and training (VET) promotion and quick learning pathways – as especially crucial to the enhancement of the modern labour market. Thanks to active engagement of these meetings’ participants, recommendations gained the present form.



The Charter aims at building education strategies where all stakeholders are involved, including not only school principals and teachers with their trade unions, but also parents, governmental and NGO representatives, employers and their associations, and student representatives. Following the OECD’s 2015 Innovation Strategy’s first area, where action should be concentrated is on the “Effective skills

strategies: Innovation rests on people that have the knowledge and skills to generate new ideas and technologies, bring them to the market, and implement them in the workplace, and that are able to adapt to structural changes across society. But two out of three workers in OECD countries today do not have the skills to succeed in a technology-rich environment. A broad and inclusive education and skills strategy is therefore essential.”(2)

Parents’ and teachers’ associations, business communities (companies and their organizations), local governments and European institutions have evaluated the enclosed Charter. Their different interests will be reflected in their findings, as presented at the New Education Forum 2017. Subsequently, the Center will promote the revised Charter of Smart Education among Smart Cities and Smart Regions. It will enable stakeholders to recognise their strengths and weaknesses in the area of new learning opportunities for their communities. Identifying and concretizing assets and focusing on challenges at the local and regional level will allow for counteracting such crucial tasks as youth unemployment, skilled workers shortages, and – in some areas – depopulation.

The Nigerian proverb, “It takes a whole village to raise a child,” has special meaning a time of uncertainty resulting from cultural, habitual, and technological change. It has a universal character applicable on other continents, including Europe. The proposed Charter is based on the strong belief that such innovative ideas and programs as Smart Cities, Smart Regions, Closed Circuit Economies and others following them came out of a holistic approach applied to the place we live. They can be implemented effectively only through the commitment of all stakeholders who care for appropriately preparing young people with their knowledge and skills to enter and succeed in their adulthood.

## Charter of Smart Education for Smart Cities and Smart Regions and other Education Stakeholders

No.	Milestone / policy measure	Indicator	Rationale and Approach	Stakeholders’ sources
<b>Learning within a Sustainable Environment</b>				
I.	From the youngest age, children and youth become deeply aware of the environment they live in through formal education. Local governments adapt policies*: 1. expecting educational leaders to contribute and follow its resolutions; 2. encouraging local business and	Smart City/Smart Region promotes programs similar to Scotland’s Learning for Sustainability - LfS (3) and enhances other stakeholders’ local and regional strategies exercised with LfS use. Every school has a whole-school	At least once a week, students as young as three (3) leave the school area to learn about different perspectives of local community life and its challenges, including business characteristics, environmental protections and social issues.	All stakeholders led by teachers acting as stimulators of the students’ exploring world outside school.

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	other stakeholders to be involved in this task on a regular basis.	approach to LfS that is robust, demonstrable, evaluated and supported by leadership at all levels. School buildings, grounds and policies support LfS.		
II.	EU Commissioner for Education, Culture, Youth and Sport - within the political mandate - enhances learning strategies embedded in sustainable development.	Programs such as Erasmus+ and others include LfS elements in their values.	Public funding to transnationally coordinated programs, which include values of LfS. Application of LfS in projects enhances effective learning of entrepreneurship, apprenticeships abroad and prepares the youth for adulthood in other aspects.	EU Commissioner and all Stakeholders who can partake in Erasmus+ and other EU funded projects.
III.	The success of the Smart City/Smart Region depends on effective cooperation of all Stakeholders and getting all students acquainted with different employment possibilities before they reach the age of 14. Meetings organized by governments on local and regional levels encouraging Stakeholders to actively partake in the learning process.	Smart City/Smart Region fosters schools' engaging of NGOs, local administrations and business communities, including industrial and agricultural entities, in the education process.	More business and more community presence at school is necessary for the youth to make responsible education-career choices. Institutions from public to private and NGO sectors include education activities as part of their action plans, adjusted to the scale of their activities.	All Stakeholders led by school leaders acting as stimulators of the students' finding their paths to adulthood, either outside and/or inside of schools.
IV.	LfS values are featured in universities and other teacher	Smart City/Smart Region fosters academia applying LfS values in	Academia institutions ensure that present and newly qualified	Academia cooperating in this

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	education/training programmes.	their curricula of teacher education and training. Every practitioner, school and education leader demonstrates LfS in his or her practice.	teachers are able to promote and embed LfS into their teaching. Such approach ensures quality of teaching.	scope with local governments.
V.	Concept of learning in sustainable environment is constantly evaluated and adjusted by Smart City/Smart Region in order to increase its effectiveness.	Smart City/Smart Region regularly evaluates engagement of outside partners in education process especially their influence on education and career decision-makings of the youth.	Assessment ensures sustainability of a holistic approach to the learning process and youth's constant awareness of the environment they live in.	Leaders from academia and research with other Stakeholders.
VI.	General Teaching Council for Scotland (GTCS) with the Center's aid undertakes promotion of values of LfS.	GTCS makes available to NEF, and wider EU partners, the resources it has developed to promote LfS and will provide examples of best practices in the delivery of LfS.	These resources will include the microsite and associated toolkit being developed to promote LfS in teacher education/training programmes.	All Stakeholders led by GTCS supported by CIE.
<b>Active Citizenship and Inclusion</b>				
VII.	EU Commissioner for Education, Culture, Youth and Sport - within its political mandate – enhances learning strategies focusing on youth's solving local social-environmental problems .	Programs such as Erasmus+ and others include local social-environmental problem solving values.	Public funding to transnationally coordinated programs, which include global impact awareness values. This is the most effective way for building awareness of the global impact of students' daily activities and for shaping their proactive,	EU Commissioner and all Stakeholders who can partake in Erasmus+ and other EU funded projects.

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			civic approach.	
VIII.	<p>The Smart City/Smart Region ensures that schools provide tools developing transversal competencies at a very early learning stage and throughout the student's growth.</p> <p>Smart City/Smart Region policies are adopted* with the active contribution of educators, implementing transversal competency enhancement methods at all learning stages.</p>	<p>From preschool through primary, secondary and post-secondary education, students work on a daily basis in teams with an emphasis on inclusion, responsibility, problem-solving and effective communication, including descriptive feedback and leadership skills.</p> <p>Parents, as the most important participants in a child's growth, receive support in developing their children's transversal competencies.</p>	<p>Transversal competencies and attitude building are important parts of everyday learning processes and are highly valued in adulthood and among employers. It takes years to develop transversal competencies.</p>	<p>Parents, teachers. and educational leaders supported by other Stakeholders.</p>
IX.	<p>Smart City/Smart Region policies are adopted* with the active contribution of educators, encouraging learning strategies based on games and the enjoyment of the learning process.</p>	<p>The everyday learning process of all students is enhanced through the usage of innovative methods based on games and enjoyment.</p>	<p>Both research and experience confirm that such friendly environments speed up the acquisition of knowledge and skills, as well as deepen and prolong memory.</p>	<p>Educational policy-makers in close collaboration with teachers and other Stakeholders.</p>
X.	<p>Smart Cities and Smart Regions of the Member States exchange knowledge and know-how in the scope of inclusion using such tools as NEF and other EU-funded projects.</p>	<p>Smart City/Smart Region fosters the exchange of research-based best practices among Member States, such as in the Flemish community in Belgium (4) - demonstrating that inclusion is</p>	<p>In order to improve their own performance, schools provide a healthy environment open to diversity within its community.</p>	<p>Smart City and Smart Region authorities involving school leaders and teachers.</p>

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		beneficial for the learning process of students and for school communities.		
<b>Development of Potential</b>				
<b>XI.</b>	Education is universally understood as a process based on presenting learning opportunities to students. With the active contribution of educators Smart City/Smart Region adopts resolutions* encouraging self-motivation in learning and creativity.	High standard policy-making at the local / regional level boosts young people's self-motivation and creativity in diverse projects involving them, also through non-formal education.	Smart City/Smart Region has a significant role in education policy-making to secure appropriate policy design encouraging students' self-motivation and creativity. It is necessary for students to take responsibility for their learning processes through setting themselves goals and achieving them, which will help them develop as life-long learners when they are adults.	Policy-makers and other Stakeholders, including NGOs focused on education projects.
<b>XII.</b>	The Smart City/Smart Region ensures interdisciplinary learning enhancing innovations. The Smart City/Smart Region – with the active contribution of educators - adopts resolutions* encouraging teaching methods which balance interdisciplinary learning with	Network of schools exchanging interdisciplinary curricula among each other, constant growth of subject topics taught through interdisciplinary learning in Smart City/Smart Region schools.	The best results are achieved when interdisciplinary learning is well-balanced with subject-oriented learning. Interdisciplinary learning equips students with the ability to think and act across different subjects, whether in the fields of the	School teachers encouraged by education leaders and local / regional authorities accompanied by other Stakeholders.

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	subject-oriented learning and encouraging the sharing of curricula among schools, which implement these methods.		sciences, arts, humanities or all of these areas at once.	
<b>XIII.</b>	The Smart City/Smart Region ensures parallel learning paths. The Smart City/Smart Region - with the active contribution of educators - adopts resolutions* encouraging teaching methods, which allow for the implementation of parallel learning paths and encourage the exchange of best practices in this scope among schools.	A network of schools exchanging good practice among each other, constantly growing number of Smart City/Smart Region schools implementing parallel learning paths in their teaching.	Adapting this approach to learning allows for the comprehension of different education topics at an individual pace and strengthens the development of individual potential. The research of prof. Dr. Gerald Hüther (5) and German best practice of Schule im Aufbruch (6) show that everyone in the same age learns in different manner and at a different speed and it is more stimulating for brain to learn in a diversified environment.	Local / regional authorities with educational leaders followed by teachers and other Stakeholders.
<b>XIV.</b>	The Smart City/Smart Region enhances tools for learning in nature. The Smart City/Smart Region - with the active contribution of educators - adopts resolutions* encouraging learning to be conducted in the natural environment.	Constantly growing number of Smart City/Smart Region schools conducting classes outside of school on a daily basis.	Changing the learning venue from routine to nature inspires imagination, creativity and strengthens transversal competencies. By letting the terrain teach the kids and youth, they develop individual talents, strengthen self-esteem and acquire team-working qualities.	Schoolteachers supported by local / regional authorities, with educational leaders, environmental NGOs and other Stakeholders.

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<b>Vocational Learning and Training (VET)</b>				
<b>XV.</b>	The Smart City/Smart Region ensures parents and their children understand VET as a different (not better or worse), more independent path to enter the adulthood. Manners of promoting VET are attractive to youth.	<p>The Number of VET students and graduates rises.</p> <p>A societal approach to VET students and graduates is positive. Promotion is conducted in the scope of:</p> <ul style="list-style-type: none"> <li>• VET partnerships with business</li> <li>• Communication about VET with parents</li> <li>• Usage of innovative communication channels: apps, social media, and visits to VET centres are used regularly.</li> </ul>	<p>Allowing attainment of actual job as early as at the age of 16, VET education is made attractive to youth when choosing career pathways (15 at the latest) as well as to their parents.</p> <p>Parents should be taught as to changing labour markets to be prepared to give good advice to their children.</p>	Local / regional authorities involve parents, businesses and education leaders.
<b>XVI.</b>	Through incentives, Smart Cities/Smart Regions support employers, particularly business sector who implement in their action plans strategies addressing youth employment through pathways adjusted to the job post specifics, based upon factual employers' needs, thus boosting the students' employability.	<p>Diverse pathways are created for large, medium and small size employers' engagement in VET. The number of apprenticeships and job posts reflects actual labour market needs through smooth communication between VET and employers.</p> <p>Smart City/Smart Region supports fulfilment of these posts through their wise promotion.</p>	<p>Companies' needs as to employees' professions are changing fast, if they are close to VET they can efficiently communicate their expectations.</p> <p>The youth should be made aware of a region's specific pathways as to potential jobs.</p>	Policy-makers and employers, especially in the business sector, engage schools, parents, youth and other Stakeholders.

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<b>XVII.</b>	EU Commissioners for Education, Culture, Youth and Sport and for the Employment, Social Affairs, Skills and Labour Mobility - within the political mandate – promote VET pathways in diverse manners.	Programs such as Erasmus+, Erasmus Pro and others are made easily accessible to youth and promote diverse VET pathways and make VET attractive to students and their parents.	Public funding to transnationally coordinated programs, which include promotion of VET in projects, changing attitudes toward this kind of educational-professional pathway.	EU Commissioners and all Stakeholders who can partake in Erasmus+, Erasmus Pro and other EU funded projects.
<b>XVIII.</b>	Smart City/Smart Region encourages higher education institutions to provide relevant, practical training for students and encourages their direct cooperation with employers, particularly business.	Skills and training at a post-secondary level are similar to those provided in VET programs, including up-to-date digital skills.	This complex and important issue should be supported by dialogue of all Stakeholders and the right incentive systems. Building coalitions around VET may be working on the simplest, least bureaucratic model where communication and cooperation between VET post-secondary education and companies is easier and more direct, like in Scuola Camerana (7).	EU, academic and business leaders with other Stakeholders.
<b>XIX.</b>	The Smart City/Smart Region builds umbrella over small enrolment programmes as local/regional solutions. Through incentives, the Smart City/Smart Region engages employers, especially businesses in developing VET curricula for	Diverse pathways are created for large, medium and small size employers' engagement in VET. The number of apprenticeships and job posts reflects actual labour market needs through smooth communication between VET and employers.	Employers should have a clear view of what outcomes they expect from VET. They should be actively engaged in curriculum design and teacher education programmes and governments should encourage such employers' involvement.	Policy-makers, employers, especially in the business sector, engaging schools, teachers, youth and other Stakeholders.

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	teachers and learners.	VET Teachers are engaged in their constant up-skilling, pursuant to curricula drawn up with employers' participation.		
<b>XX.</b>	Smart Cities/Smart Regions rely on international research made by the OECD and other institutes as well as employers in terms of setting VET outcomes and impacts when creating local/regional policies.	VET outcomes are measured by: <ul style="list-style-type: none"> <li>- opportunities for up skilling and moving up in education and training,</li> <li>- the engagement of employers in their design and practice,</li> <li>- the passive/active role of learners in the learning and working process,</li> <li>- the extent to which VET equips the youth with wider attributes that business views as a priority, i.e. confidence, resilience, enterprise, ambition, creativity and initiative.</li> </ul>	Training integrated in the work process of companies needs criteria for the quality of learning and as well the quality of training and trainers.	Schoolteachers supported by local / regional authorities, educational leaders and other Stakeholders.
<b>Up-to-date skills</b>				
<b>XXI.</b>	The Smart City/Smart Region - with the active contribution of educators - adopts resolutions* encouraging continuation of strengthening	During one's upper-secondary education the youth is: <ul style="list-style-type: none"> <li>- made aware of the changing labour market, which allows for</li> </ul>	Upper-secondary programmes should be tailored to every student, engaging them with the usage of diverse tools and	Schoolteachers supported by local / regional authorities,

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	transversal competencies of students, broadened by topics related to life-long learning. Transversal competencies are an integrated part of professional competence.	dynamic careers, provides unstable job posts and requires a greater level of specialization, - encouraged to explore new technologies and - acquainted with the necessity of life-long learning.	strengthening their transversal competencies. The acquisition of such skills is justified by the instability of jobs and employers' expectations for their employees to possess them. They are transferable, non-job specific, core, intangible, and translate into positive and efficacious working attitudes. Transversal competencies diminish when unemployed.	educational leaders and other Stakeholders.
XXII.	The Smart City/Smart Region supports regulatory frameworks, which foster the acquisition of digital skills as early as in preschool.	The Smart City/Smart Region promotes self-organized, competency-based learning and the development of personal competencies on the basis of e-learning tools such as offered by the Austrian model of CoOperative Open Learning (8).	The new 4.0 industrial revolution creates unmet demand for such skills. Usage of digital media, mobile devices and open pedagogical settings enables acquiring individual competencies using individualized competence grids as an innovative method that is attractive to young people.	Local/regional governments, schoolteachers and other Stakeholders.
XXIII.	By offering the right incentives Smart City/Smart Region support entrepreneurs' efforts in facilitation their employees' further training.	Business engagement in government initiatives and the popularity of up-skilling among workers.	Employers should be aware of their responsibility to popularize life-long learning among their employees. Employers investing in the acquisition of up-to-date skills for their employees are recognized	Business and policy-making leaders with other Stakeholders.

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			as contributors to their communities by policy-makers.	
<b>XIV.</b>	The Smart City/Smart Region engages in the research and promotion of quick learning methods allowing people to enter the labour market faster.	Quick learning pathways, with the usage of digital technologies, are implemented to train employees and future employees dynamically, effectively and cost efficiently. Only employers provide such pathways, reducing mismatches between career pathways chosen by youth and companies' expectations.	Mismatches between career pathways chosen by youth and companies' expectations are a common problem for the EU. Investing in more effective and efficient methods of learning should be encouraged, taking into account that every learning opportunity needs time and the more time learners have to achieve relevant competences, the better the results will be. A short learning pathway may narrow skills to singular jobs and employees would not be able and flexible enough to react to changing requirements.	Educators and researchers with other Stakeholders.
<b>Broad based cooperation of Smart Cities and Smart Regions with Key stakeholders</b>				
<b>XXV.</b>	The Smart City/Smart Region fosters participation of students, their parents, teachers, principals, local communities as well as businesses to implement research-based best practices.	Settings similar to the New Education Forum are a regular part of the Smart City/Smart Region environment. Decision-making as well as responsibility in the scope of	This cooperation constitutes a paradigm shift in order to introduce factual educational transformation moving from a XIX century model to the present.	Policy-makers and other Stakeholders.

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		education are passed through mutual agreement to other Stakeholders.		
<b>XXVI.</b>	The Smart City/Smart Region enforces a strong emphasis on the preparation of teachers as an effective investment.	Teachers modify their role from knowledge transfer to mentor.	With constant access to knowledge, i.e. through smartphones, pedagogues are willing to fulfil other, more important task as students' mentors. The Polish Mentor (9) practice provides solutions preparing teachers to hold such a role. Also, the transversal competency development of teachers is a life-long challenge, in part because children of different generations are diverse.	Policy-makers, educational leaders, teachers and other Stakeholders.

\* - local/regional governments' empowerment in the scope and enforcement of education policies varies upon different EU Member States.

Joanna Bochniarz, Center for Innovative Education, Charter of Smart Education (draft), October 16, 2017

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- (1) T. Vander Ark, M. Ryerse "Smart Cities that work for everyone", 2015
- (2) Organisation for Economic Co-operation and Development (OECD), "OECD Innovation Strategy", 2015
- (3) The Scottish Government has accepted the recommendations in the report Learning for Sustainability, The report of the One Planet Schools Group, 2012. The professional actions, values, skills and knowledge of Learning for Sustainability are embedded within the General Teaching Council for Scotland's Professional Standards for Registration/Career-Long Professional Learning/Leadership

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and Management, recognising that all teachers should be confident in their knowledge and understanding of the challenges facing society locally and globally.

- (4) M-A. Persoons, C. Rhellam, M. Smeyers, E. Malfroy, “Integration of refugees in education system of Flemish Community of Belgium”, Flemish Department of Education and Training, 2016
- (5) G. Hüther, U. Hauser, „All kids are talented – Wszystkie dzieci są zdolne”, 2015
- (6) Initiative Schule im Aufbruch GmbH, “Schule im Aufbruch”, [www.schule-im-aufbruch.de](http://www.schule-im-aufbruch.de), 2016
- (7) Scuola Camerana, [www.scuolacamerana.it](http://www.scuolacamerana.it)
- (8) A. Riepl, for “CoOperative Open Learning in Austria”, [www.cooltrainers.at](http://www.cooltrainers.at), moodle.cooltrainers.at, [www.edustandards.org](http://www.edustandards.org), 2016
- (9) J. Bochniarz, “Mentor Programme”, Center for Innovative Education, [www.ciedu.eu](http://www.ciedu.eu), 2015