



6th Smart Cities Conference, 2018

Bucharest, Romania

# The Smart Cities are implemented – Are Citizens "Smart" Also?

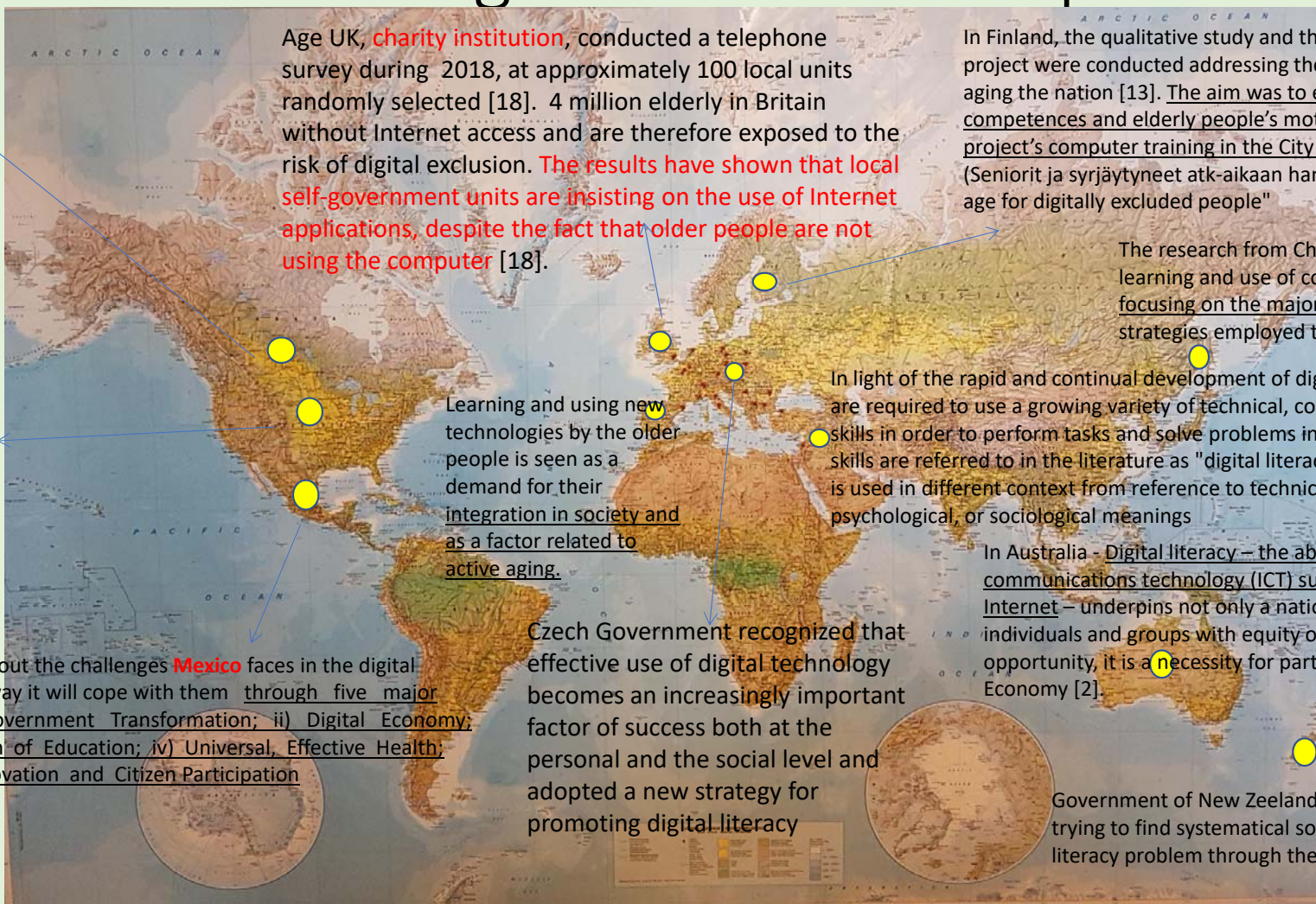
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# Start points – key words

- Smart city - 'when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance' [Cahuhan and Agarwal]
- Digital literacy – ability to find, check, usage and creating of digital content in any sense that requires critical and creative thinking (compilation of different sources)
- E-skills
  - basic – citizens need to be ready to use digital economy and digital society
  - general – employee who works on creating digital content for digital service
  - advanced - specialist (master) – developer of digital services and digital economy concepts, interoperability...

# World digital inclusion map



In **Canada**, central government and provinces in November 2015 held conference "Create a federal strategy of Digital Literacy."

**United States:** A Portrait from PIAAC's (The Program for International Assessment of Adult Competencies) Survey of Adult Skills in February, 2015

The Strategy sets out the challenges **Mexico** faces in the digital context and the way it will cope with them through five major objectives: i) Government Transformation; ii) Digital Economy; iii) Transformation of Education; iv) Universal, Effective Health; and v) Civic Innovation and Citizen Participation

Age UK, **charity institution**, conducted a telephone survey during 2018, at approximately 100 local units randomly selected [18]. 4 million elderly in Britain without Internet access and are therefore exposed to the risk of digital exclusion. **The results have shown that local self-government units are insisting on the use of Internet applications, despite the fact that older people are not using the computer [18].**

Learning and using new technologies by the older people is seen as a demand for their integration in society and as a factor related to active aging.

Czech Government recognized that effective use of digital technology becomes an increasingly important factor of success both at the personal and the social level and adopted a new strategy for promoting digital literacy

In Finland, the qualitative study and the 5 years long project were conducted addressing the main problem of aging the nation [13]. The aim was to evaluate ICT competences and elderly people's motivation after SATKA-project's computer training in the City of Helsinki. SATKA (Seniorit ja syrjäytyneet atk-aikaan hanke) stands for "ICT age for digitally excluded people"

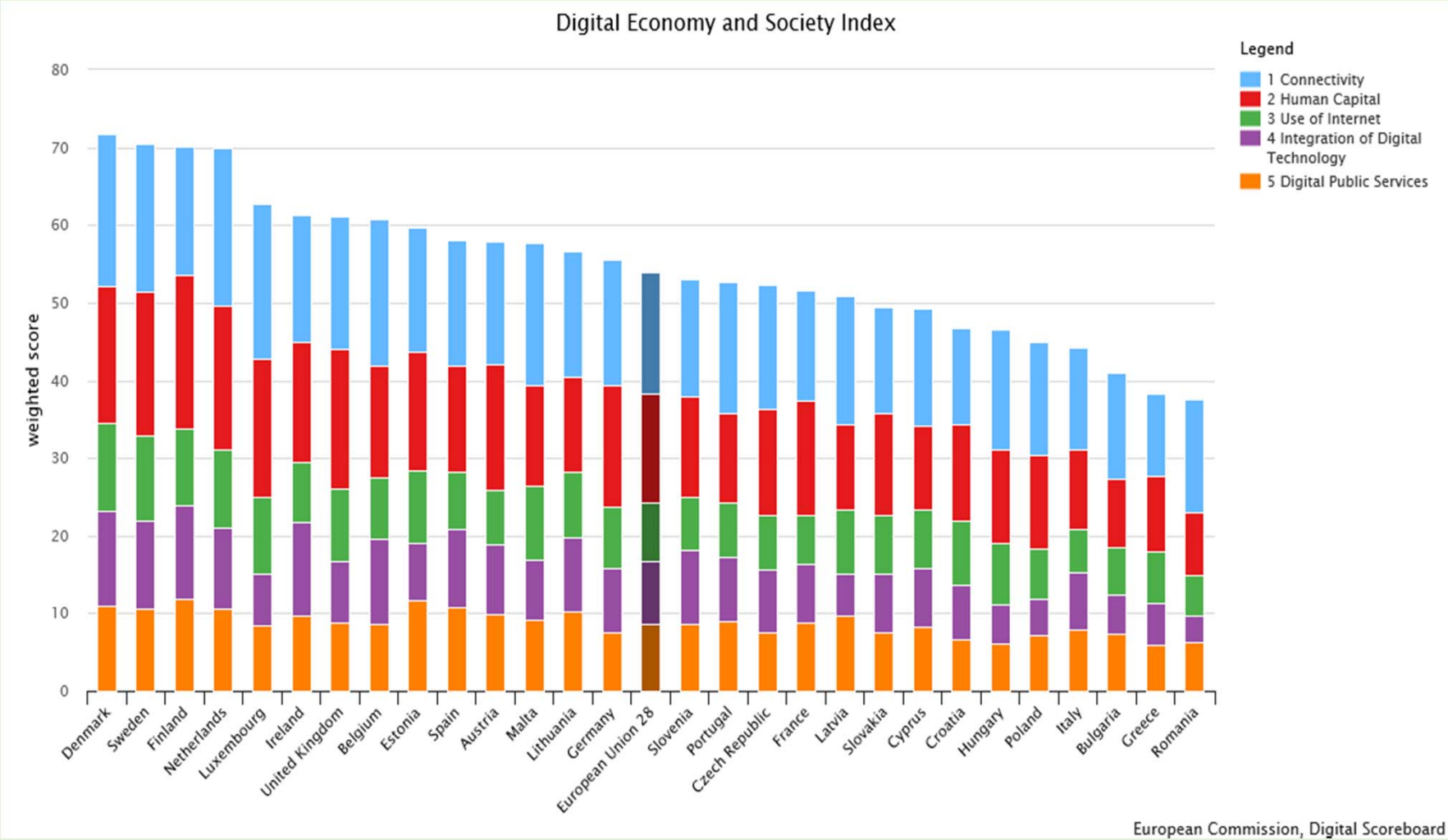
The research from China older than 65 Chinese's learning and use of computers and the Internet, focusing on the major barriers encountered and strategies employed to overcome those barriers.

In light of the rapid and continual development of digital technology, individuals are required to use a growing variety of technical, cognitive, and sociological skills in order to perform tasks and solve problems in digital environments. These skills are referred to in the literature as "digital literacy".[4] In literature this term is used in different context from reference to technical aspects, to cognitive, psychological, or sociological meanings

In Australia - Digital literacy – the ability to use information and communications technology (ICT) such as computers and the Internet – underpins not only a nation's capacity to provide individuals and groups with equity of access to social opportunity, it is a necessity for participation in the Digital Economy [2].

Government of New Zealand with public libraries trying to find systematical solution of the digital literacy problem through the education system

# State of indicators in EU - measure for evaluation of the process of digitalization in European Union countries



European Commission, Digital Scoreboard

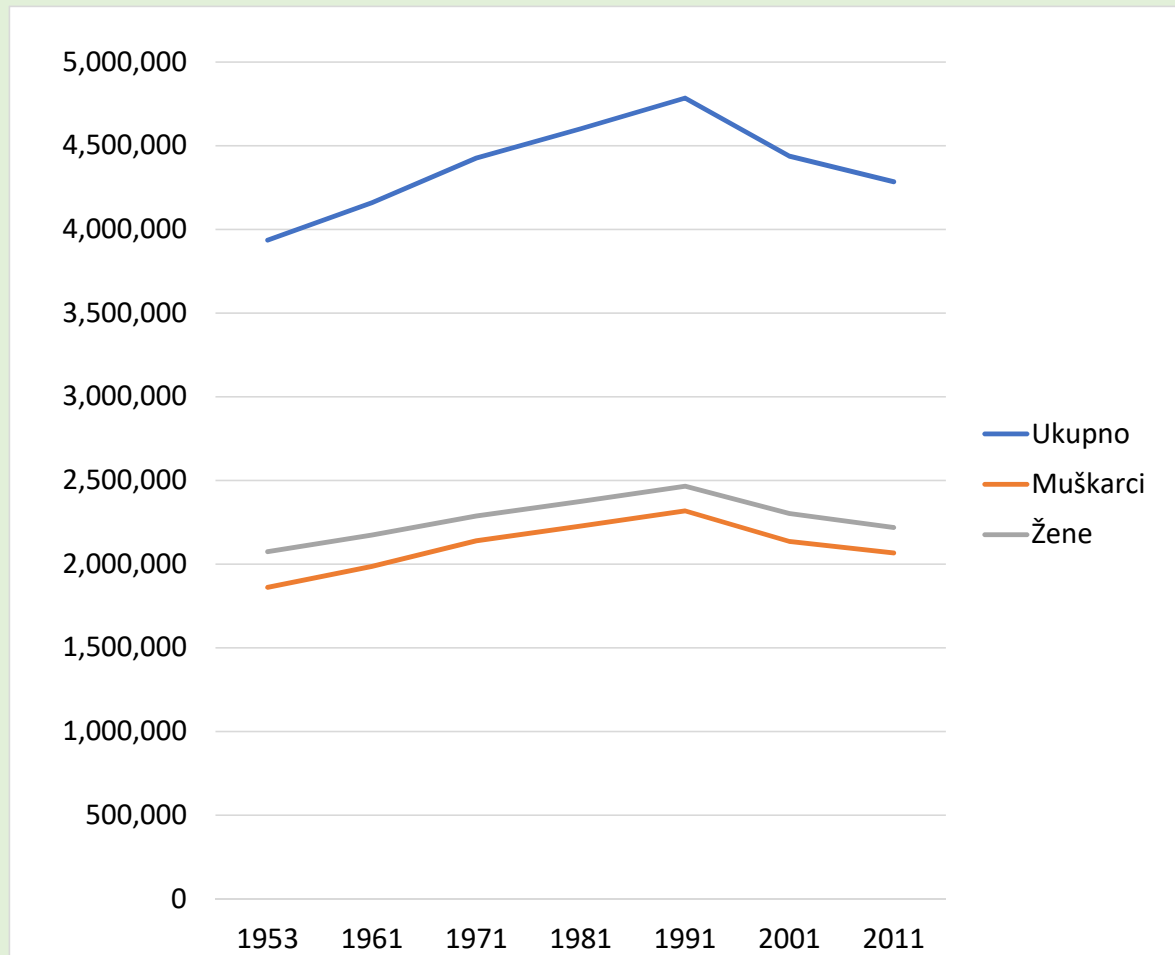
<https://ec.europa.eu/digital-single-market/en/desi>

# Analise of the problem

Stakeholders	Properties of digital service	Need for increasing the number of users <b>WHY</b>	<b>Effect of increasing the e-inclusion rate</b>
banking	ACCESSIBILITY 7/24/365; easy to use with temporary communication with personal bank officer	investment in development of e-services takes a lot of expectations, like decreasing the cost of operating; if the number of users will increase and cost will decrease, the effects will multiply	contributing to greater business efficiency
commerce	ACCESSIBILITY 7/24/365; easy to use; delivery to the households address at specific time	the investment in development of e-commerce services was justified expectations; in combination with banking and safety	contribution to economic growth and greater turnover of goods
		and secure payment methods by increasing the number of users contributes to the development of services	
ICT sector	ACCESSIBILITY 7/24/365; communication services by tuning to specific needs according to users age	- the communications sector has recognized that segmentation of customers leads to increased sales; greater involvement in communication services is a prerequisite for all other aspects of e-Inclusion 54+	contribution to economic growth and greater turnover of goods and services
		- e-Inclusion implies the availability of ICT equipment	
government (all levels: state, regional, local)	in the aim of public administration reforms by using e-services the government services are more accessible 7/24/365, transparent (e-citizen)	- reducing labor costs, increasing work transparency, citizen participation in policy making, and access to information on citizens' rights and obligations are key to the success of the work of all levels of government bodies	contributes to greater efficiency, facilitates communication and sharing of information, encourages citizen participation in public hearings
Institution and SME owned by government bodies	e-services are on the different level of development		contributing to the exchange of information, raising the quality of service and ensuring development, all in order to raise the quality of life of citizens
NGO		e-Inclusion	civil society development
			the possibility of greater use of EU funding

Number of citizens in RH od 1953. do 2011. (Census 2011. godine)

Year	Total (Ukupno)	Male (Muškarci)	Female (Žene)
1953	3.936.022	1.861.229	2.074.793
1961	4.159.696	1.986.204	2.173.492
1971	4.426.221	2.139.048	2.287.173
1981	4.601.469	2.226.890	2.374.579
1991	4.784.265	2.318.623	2.465.642
2001	4.437.460	2.135.900	2.301.560
2011	4.284.889	2.066.335	2.218.554



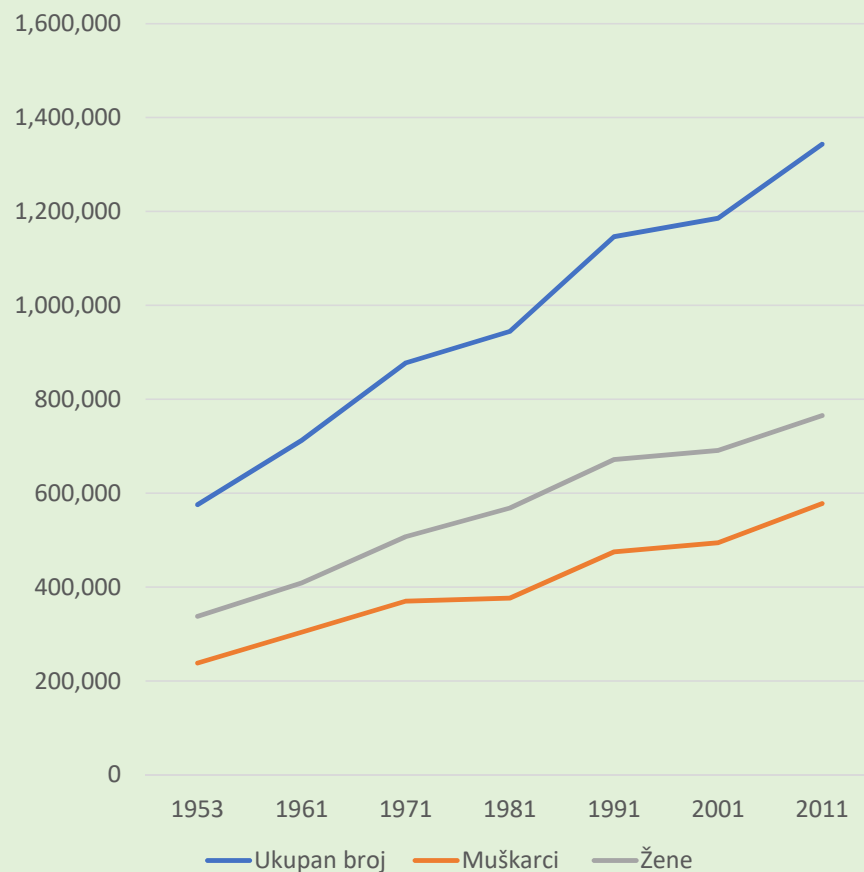
# Census 2011 Republic of Croatia

## Another **WHY** Number of citizens over 54 year

Godina Year	Ukupan broj Total	Muškarci Male	Žene Female
1953	575.560	237.969	337.591
1961	712.560	303.871	408.689
1971	877.564	370.124	507.440
1981	944.640	376.479	568.161
1991	1.146.390	474.869	671.521
2001	1.185.331	494.448	690.883
2011	1.343.191	577.809	765.382

Part of 54+ in total population	
Godina	%
1953	14,6
1961	17,1
1971	19,8
1981	20,5
1991	24,0
2001	26,7
2011	31,3

Number of citizens 54 + in the period  
1953 to 2011



# Cenzus 2011 in CRO – related with e-literacy in County of Koprivnica Križevci

A part of citizens older then 54 who do NOT know how to use software tools and rank of municipalities on the territory of Koprivnica-Križevci County, Cencus, 2011.

	Text editing	rank	Spreadsheet editing	rank	Using e-mail	rank	Using Internet	rank
MIN	81%	1	84%	1	82%	1	80%	1
	KOPRIVNICA		FERDINANDOVAC		KOPRIVNICA		KOPRIVNICA	
MAX	99%	25	100%	25	99%	25	99%	25
	KALNIK		GORNJA RIJEKA		GORNJA RIJEKA		GORNJA RIJEKA	

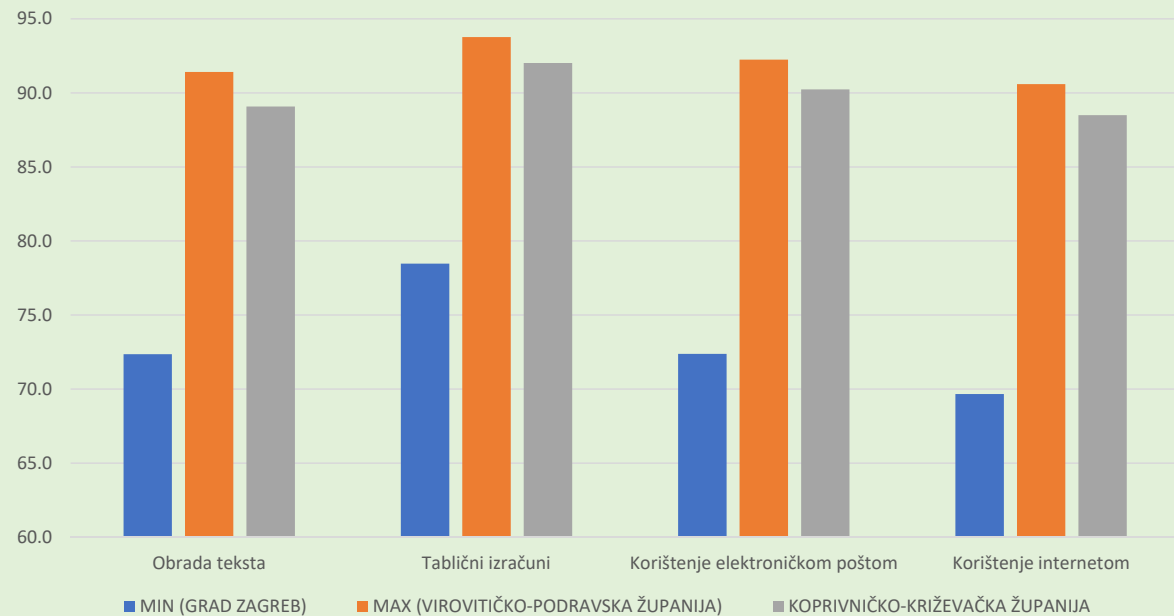


A part of citizens older then 54 who do NOT know how to use software tools and rank of municipalities on the teritory of Croatia, Census 2011.

County	Text processor Obrada teksta	rank	Spreadsheets Tablični kalkulatori	rank	Using e-mail Korištenje e pošte	rank	Using Internet Korištenje Interneta	rank
MIN (CITY OF ZAGREB)	72,4%	1	78,5%	1	72,4%	1	69,7%	1
MAX (VIROVITIČKO- PODRAVSKA COUNTY)	91,4%	21	93,8%	21	92,2%	21	90,6%	21
KOPRIVNIČKO-KRIŽEVAČKA COUNTY	89,1%	13	92,0%	14	90,2%	14	88,5%	14



.... and another WHY



County	% GRAĐANA KOJI SU ODGOVORILI SA "NE ZNAM SE SLUŽITI"			
	Text editing	Spreadsheet editing	Using of e-mail	Using of Internet
Zagrebačka	85,52021702	88,7423372	85,64944358	83,39171668
Krapinsko-zagorska	91,24612279	93,5379843	92,02648811	90,45098715
Sisačko-moslavačka	89,11579815	91,506647	89,54175398	87,52189894
Karlovačka	88,05249694	90,9309309	89,1180069	87,07374041
Varaždinska	87,96646423	91,2398304	88,99965624	86,98292655
Koprivničko-križevačka	<b>89,07509132</b>	<b>92,0224186</b>	<b>90,23506121</b>	<b>88,49231799</b>
Bjelovarsko-bilogorska	90,31556603	92,9379482	91,04299878	89,3836237
Primorsko-goranska	77,15049612	82,6329099	77,45260801	74,65831435
Ličko-senjska	90,75390443	92,6425569	90,96663726	89,5760909
<b>Virovitičko-podravska</b>	<b>91,40841227</b>	<b>93,7707091</b>	<b>92,2426227</b>	<b>90,58979457</b>
Požeško-slavonska	91,0022253	93,2695134	91,90494185	90,29684679
Brodsko-posavska	90,16927634	92,8650021	90,90562844	89,00550148
Zadarska	85,24524959	88,8611669	84,87642603	82,7665383
Osječko-baranjska	86,97325924	89,6951836	87,5952891	85,55846754
Šibensko-kninska	87,48365684	90,2569647	87,35794026	85,15790003
Vukovarsko-srijemska	90,47397423	92,8177824	90,97661777	88,89157793
Splitsko-dalmatinska	82,66459473	85,8384765	82,37872546	79,55668274
Istarska	80,24693164	84,1279129	79,92217557	77,36947586
Dubrovačko-neretvanska	81,23709744	84,9246491	80,03973988	77,2837531
Međimurska	88,70902342	91,8623873	89,88802595	87,6048782
<b>Grad Zagreb</b>	<b>72,35771354</b>	<b>78,4669655</b>	<b>72,38117583</b>	<b>69,66778215</b>

# Common issues of case studies and projects

why the authors suggest the new approach

- growing number of elderly in population
- active aging initiative by social inclusion and digital inclusion
- voluntary and NGO
- different projects provided and parameters were used for increasing digital literacy of elderly, but there is no general systematic approach to solve the issue of digital exclusion of elderly – the rate is still low
- the focus was not directed to motivation of elderly to be included in courses for empowering e-skills (some physical disease, fear of unknown ...)
- the lecturers patience and empathy is not enough emphasized
- public technical resources are not used efficiently during the time; public open universities usually have the practicums and that equipment is not used enough (its value decrease during the time); it could be put in function to increase digital literacy rate of elderly

## How to improve indicators

- include volunteers in program of education and courses of empowering e-skills of elderly; it is additional social effect
- use public technical resources in public open universities and in public schools (primary are mostly in every settlement) at the time when there is no need to use them for regular education of pupils
- the possibility of this proposal is to test (by experiment) who is better transmitter of knowledge or skills (peers or “grandchildren”)
- the last question is in relation with deficit of educational professional staff , and for getting e-skills for “every day needs of elderly” is enough that lecturer has for example ECDL ADVANCED certificate and most important is that he is emphatic to elderly
- the motivation is still not answered – how to start motivating elderlies to be a part of the project?! – please let me know yours opinion.

# NEXT STEP: Experiment of raising digital literacy of elderly

- Location – standardized equipment in Public Open Universities or primary schools (public budget users – local government level)
- Lecturer – can be peer (person of same ages), „grandchild”, or lecturer active in regular education as control group
- Lecturers have to gain ECLD Advanced testing and get certificate
- Skills and contents:
  - BASIC: Word processor, Spreadsheet processor, E-mail communication, Finding data sources and decision making about quality of data
  - ADVANCED: using e-services – public or commercial for every day needs (e-banking, medical and health issues, taxes, news, shop and pay by using e-services)
- Testing social inclusion and digital inclusion before and after project

# Lecturers – are the critical grummet

- The deficite of
- **HOW TO SOLVE THE PROBLEM:**
  - Include volunteers of different kind of ages to find does the ages of lecturer have possitive effects to success of e-skills courses for 54+
  - Does the ages of lecturer influence to the motivation fo elderly to be included in courses?

## Call for cooperation – to support the project by partnership

- Universities and research institutions
- NGO
- ICT community
- Business sector (bank, commerce,...)
- Government – especially local – direct communication with citizens

Please give us your opinion