



# ASSISTIVE TECHNOLOGY LEARNING THROUGH A UNIFIED CURRICULUM

[www.atlec-project.eu](http://www.atlec-project.eu)

518229-LLP-1-2011-1-UK-LEONARDO-LMP

# GENERAL INFORMATION

- Startdate: 01 january 2012
- Enddate: 31 December 2013
- Duration: 24 months
  
- Target groups:
  - People with a disability
  - VET centres, ICT training centres, special and inclusive education, employment centres, HR departments, etc.
  
- Financial support:
  - 75% EU Subsidy by European Commission, Lifelong Learning Programme, Multilateral project

# PROJECT CONSORTIUM

- **Oak Field School and Sports College (UK) – project contractor**
- **PhoenixKM BVBA (Belgium) – project coordinator**
- **Αναπηρία Τώρα (Disability Now) (Greece)**
- **Associazione Italiana Assistenza Spastici (A.I.A.S.) Della Provincia Di Bologna onlus (Italy)**
- **Greenhat Interactive Ltd (UK)**
- **University of Athens (Greece)**



# BACKGROUND

- Assistive Technology (AT) is there to help end-users
- BUT: even when barriers to obtain AT devices are overcome, users often abandon their devices:
  - Disregard for consumers' preferences in technology selection,
  - Poor device performance,
  - Change in consumers' functional abilities,
  - Unreliable devices, and difficulty in using devices (lack of training),
  - Environmental barriers, and
  - Fear of technology.

See Phillips & Zhao, 1993, Giltin, 1995; Phillips, 1993; Rogers & Holm, 1992.

## OUTLINE:

1. Get an understanding of the European AT market
2. Look at some underlying problems as identified by recent research
3. Some suggestions for improved end-user driven approaches
4. How does ATLEC address this?



## SOME DATA:

- A total EU population of 501 million\*
- An estimated 45 million people in the EU have a long-standing health problem or disability (LSHPD)\*\*

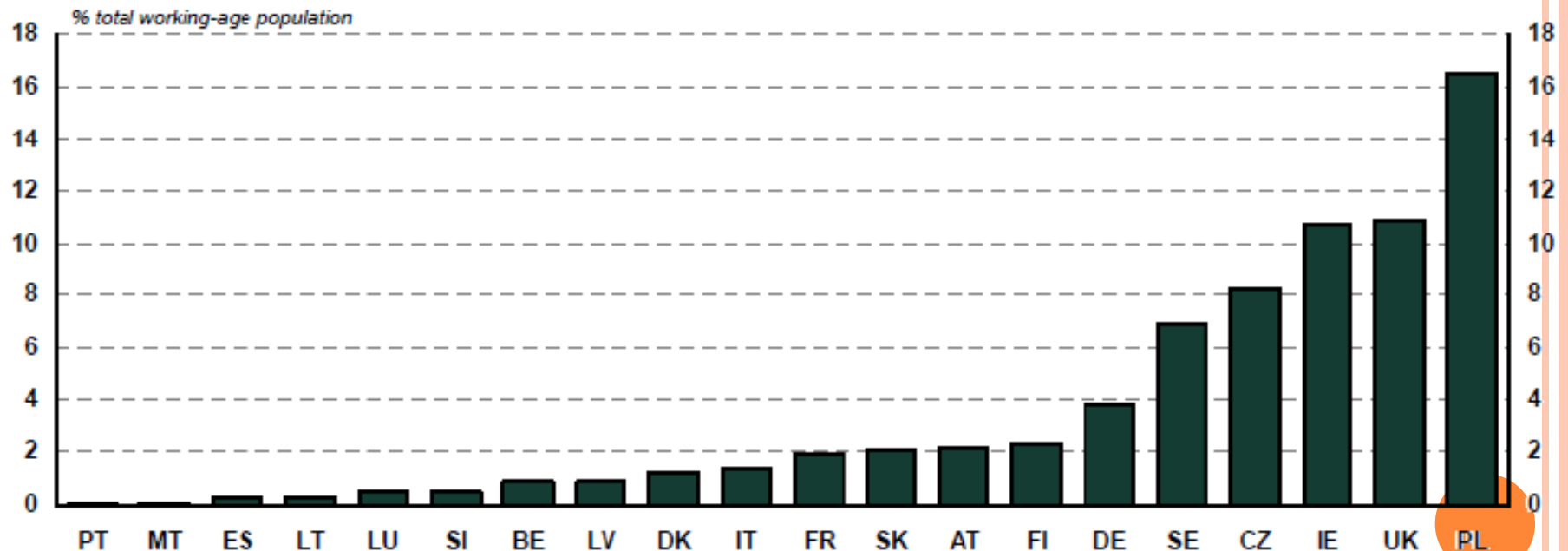
\* <http://epp.eurostat.ec.europa.eu>, 1 July 2010

\*\* Data extracted from the 2002 EU Labour Force Survey (LFS) and the 2004 EU Statistics on Incomes and Living Conditions



## SOME DATA:

- Disability rates in working population
  - Different definitions of “disability” (6-30% between the Member States)



# SOME DATA:

- Figures are from 2001, Eurostat

<b>Country</b>	<b>Total Population</b>	<b>Disabled Population<sup>22</sup> Severely Hampered</b>	<b>Disabled Population<sup>23</sup> Moderately Hampered</b>	<b>Disabled Population<sup>24</sup></b>
	<b>(Millions)</b>	<b>(Millions)</b>	<b>(Millions)</b>	<b>(Percentage)</b>
<b>Belgium</b>	10.3	0.6	1.0	<b>15.5</b>
<b>Denmark</b>	5.4	0.3	0.9	<b>22.2</b>
<b>Germany</b>	82.5	8.4	24.3	<b>39.6</b>
<b>Greece</b>	11.0	0.8	1.0	<b>17.3</b>
<b>Spain</b>	41.5	2.4	4.0	<b>15.4</b>
<b>France</b>	59.6	6.2	8.0	<b>23.8</b>
<b>Ireland</b>	4.0	0.2	0.5	<b>17.5</b>
<b>Italy</b>	57.3	2.6	3.8	<b>11.2</b>
<b>Netherlands</b>	16.2	1.4	2.6	<b>24.7</b>
<b>Austria</b>	8.1	0.4	0.9	<b>16.0</b>
<b>Portugal</b>	10.4	0.9	1.4	<b>22.1</b>



# SOME FACTS:

- People with disabilities - Facts
  - Lowest estimate, based on the extremes of currently defined disablement categories:
    - Around 74 Million persons in Europe alone
  - Other estimates that take into account:
    - People in the so-called hinterland between fully able bodied and the classically termed disabled, should considerably raise those numbers
  - Disability rates vary
    - Different disability definitions and classification
    - E.g. defining disability within the context of incapacity to work, as they do in Poland, while it is functionality in UK

## SOME DATA:

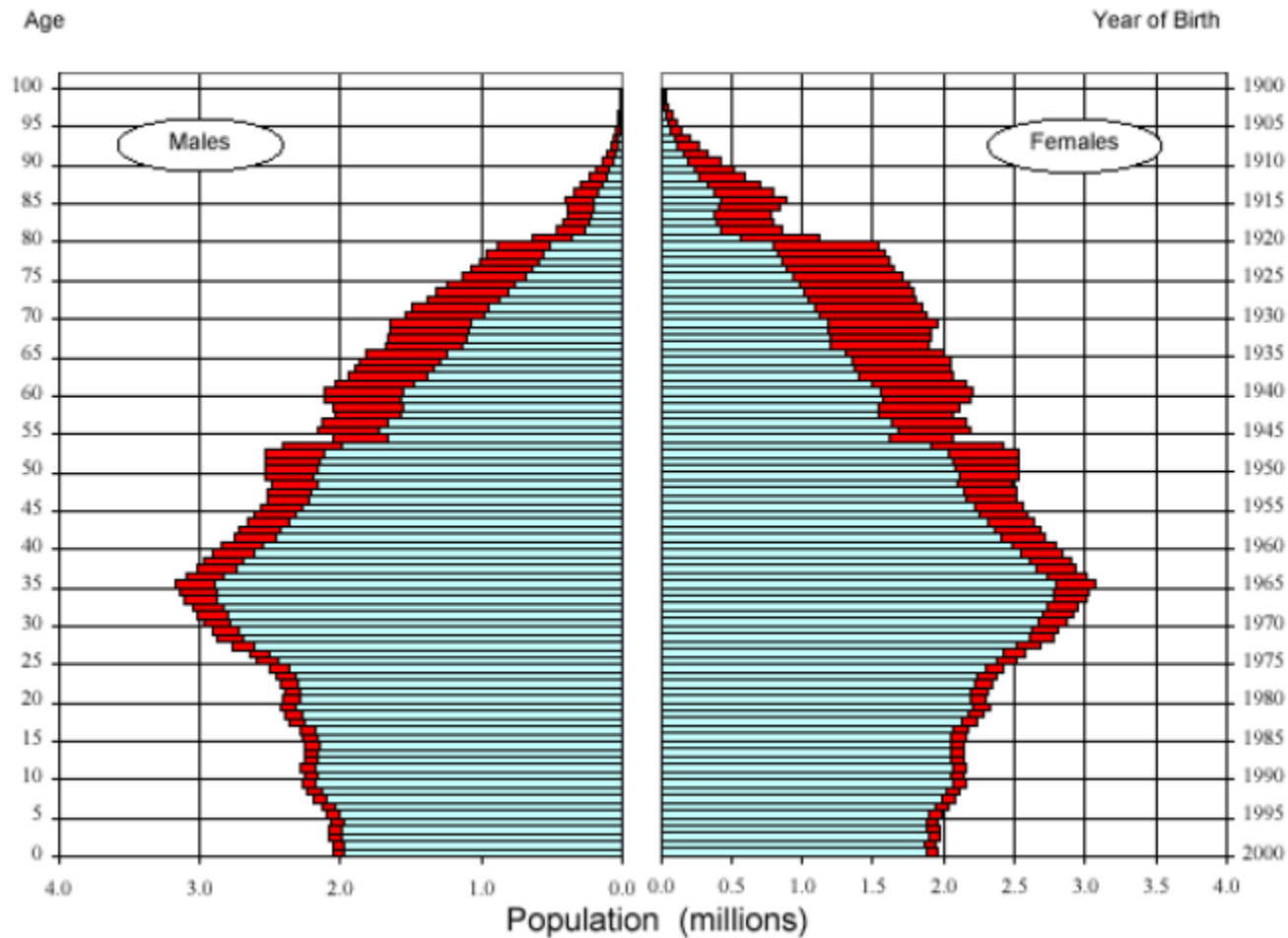
- The population in need of AT will increase
  - Figures are from 2001, Eurostat

Country	Elderly Population <sup>18</sup> 65+ years (Millions)	Elderly Population <sup>19</sup> Severely Hampered (Millions)	Elderly Population <sup>20</sup> Moderately Hampered (Millions)	Elderly Disabled Population <sup>21</sup> (Percentage)
Belgium	1.7	0.2	0.3	29.4
Denmark	0.8	0.1	0.2	37.5
Germany	14.4	3.3	7.2	72.9
Greece	2.0	0.4	0.4	40
Spain	7.2	1.1	1.6	37.5
France	9.7	2.5	2.7	53.6
Ireland	0.4	0.1	0.1	50
Italy	10.6	1.5	2.8	40.6
Netherlands	2.2	0.4	0.6	45.4
Austria	1.3	0.2	0.3	38.5
Portugal	1.7	0.4	0.5	52.9
Finland	0.8	0.2	0.3	62.5
Sweden	1.5	:	:	:



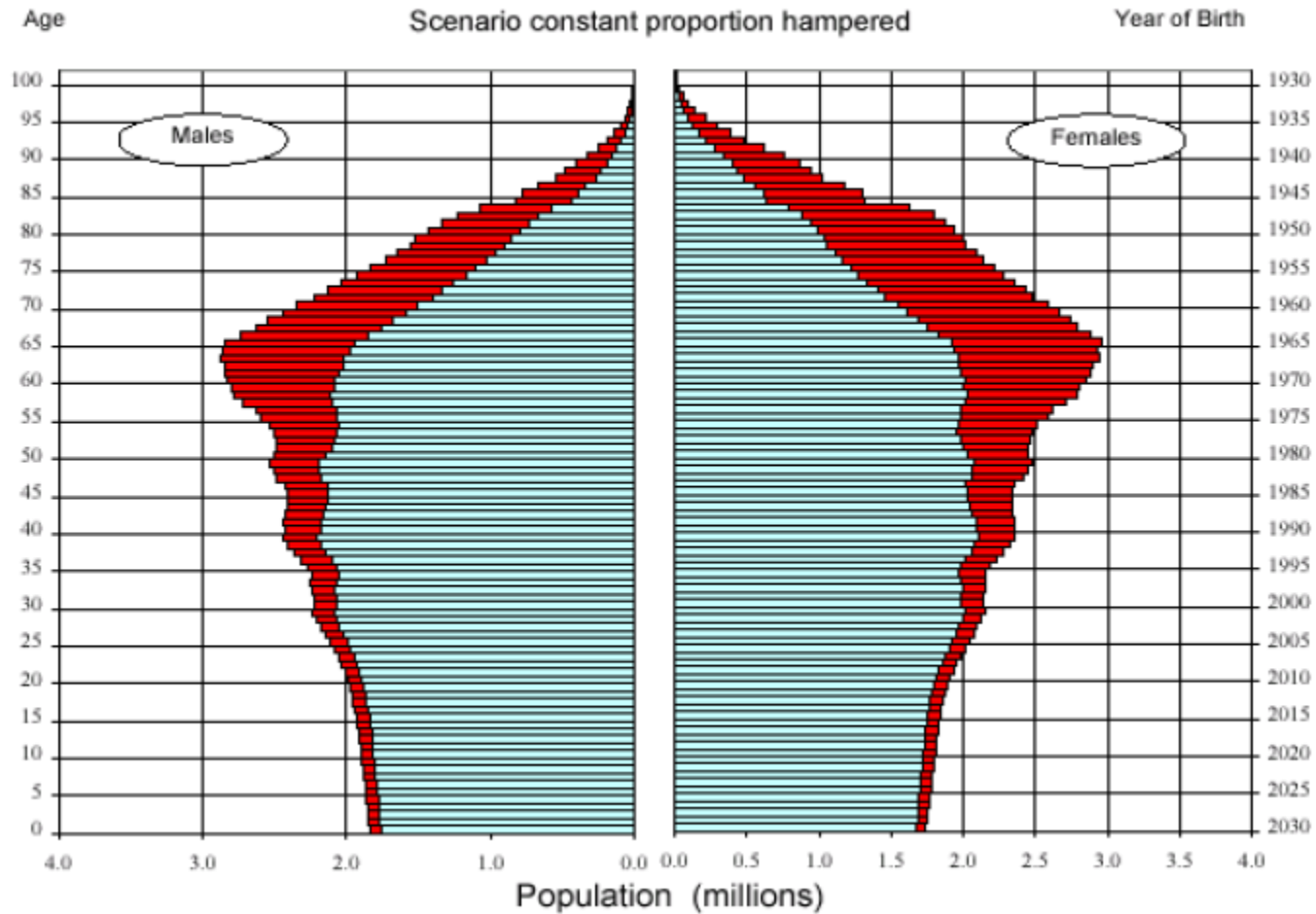
# SOME DATA:

European Union, 2000, Total and Hampered Population



# SOME DATA:

European Union, 2030, Total and Hampered Population



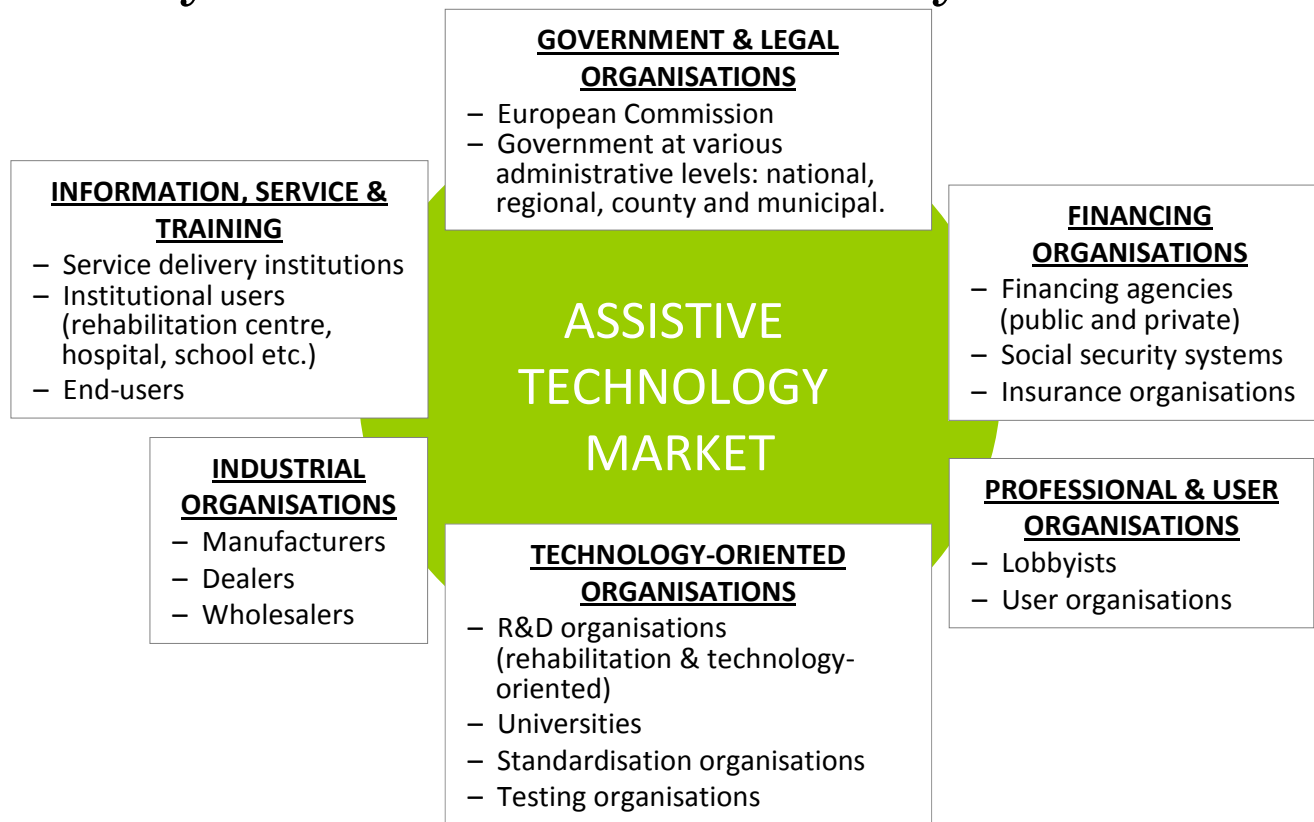
## COMPLEX EU AT INDUSTRY:

- EU AT industry is complex and characterised by:
  - a large number of products,
  - a large number of SMEs,
  - different service provider systems (public health systems, public social systems, private organisations and associations dedicated to the AT sector) that are used to get AT ICT products to the end-users with disabilities,
  - and different reimbursement schemes by national and local authorities.



# AT MARKET PLAYERS:

- The variety of actors who participate – directly or indirectly – in the AT ICT industry



Source: Analysing and federating the European assistive technology ICT industry, Final Report,

March 2009

# REIMBURSEMENT MODELS:

- The medical oriented model:
  - Starting point is the handicap where the physician initiates necessary procedures and must approve the need for listed and reimbursed AT based on medical arguments.
- The social oriented model
  - Based upon national legislation and local and decentralised execution, and involves national/local agencies that coordinate the provision and funding of AT, often also after the person with disability is evaluated by a panel of medical experts (like in the medical oriented model) to define the degree of disability, and the access to subsidies.
- The consumer oriented model:
  - The end-user has direct contact with a retailer in order to get his/her AT product (e.g. personal budget).

# SOME DATA:

	HEARING AIDS	BRaille READERS	APPLS FOR VOICE COMMUNICATION	SOFTWARE FOR COMMUNICATION	ENVIRONMENTAL CONTROL SYSTEMS
AUSTRIA	medical	social	social	social	social
BELGIUM	medical	social	social	social	social
DENMARK	social	social	social	social	social
FINLAND	medical	medical	medical	medical	medical
FRANCE	medical	social	consumer	social + consumer	social + consumer
GERMANY	medical	social	social	social	social
GREECE	medical	consumer	consumer	consumer	consumer
HUNGARY	medical	consumer	consumer	consumer	consumer
IRELAND	medical + consumer	medical + consumer	medical + consumer	medical + consumer	medical + consumer
ITALY	medical	medical	medical	medical	social
NETHERLANDS	medical	social	social	social	social
PORTUGAL	medical	consumer	medical + social	social + consumer	consumer
SLOVAKIA	medical	social	social	social	consumer
SLOVENIA	medical	medical	medical	social + consumer	social + consumer
SPAIN	medical *	consumer	social + consumer	social + consumer	social
SWEDEN	medical	medical	medical	medical	medical
UK	medical	social	social	consumer	social



# SOME DATA:

## Expenditure on Social Protection in Europe 2001

Country	Per capita expenditure in PPS in 2001 EU15=100	Per capita expenditure annual average growth 1992-2001 (%)	Share of Social Protection Expenditure in GDP (%) 2001	Distribution of social benefits in 2001 by group of functions %					
				Old-age, survivors	Sickness, health care	Family, children	Disability	Unemployment	Housing, social exclusion
Austria	117	1.9	28.4	49.5	24.7	10.6	8.1	5.0	2.1
Belgium	108	1.7	27.5	43.7	25.0	8.9	9.0	11.7	1.6
Denmark	122	1.9	29.5	38.0	20.3	13.3	12.5	10.0	6.0
Finland	88	0.6	25.8	36.6	24.5	12.1	13.7	9.8	3.3
France	113	1.7	30.0	43.7	29.2	9.5	6.0	7.1	4.4
Germany	114	1.7	29.8	42.4	28.8	10.4	7.7	8.2	2.5
Greece	62	5.6	27.2	51.3	25.8	6.9	5.0	6.0	5.1
Ireland	60	4.7	14.6	24.8	43.4	12.5	5.2	8.3	5.8
Italy	97	1.3	25.6	62.3	26.1	4.0	5.7	1.6	0.3
Luxembourg	165	4.1	21.2	39.4	25.4	16.8	14.2	2.5	1.6
Netherlands	115	0.9	27.6	41.8	30.4	4.4	11.6	5.0	6.8

Gérard Abramovici: Social Protection in Europe, Statistics in focus: Population and social conditions Theme 3 – 6/2004, p.1-8

## BARRIERS:

- Knowledge of the disabled end-user
- Knowledge of the diagnostician, prescriber of product solutions
- Knowledge of the rules and procedures of different national service provider systems in Europe, but also reimbursement schemes
- Flexibility in product design to be able to serve different geographical markets



# BARRIERS:

- Lack of knowledge by the marketplace of the types of solutions available (i.e., not all possible AT ICT solutions are included in national service provider systems).
- Cost and time needed to navigate the different national service provider systems in Europe in order to ensure compliance
- Different interpretations of national service provider systems at the regional level (thereby fragmenting a national market into regional markets)
- Lack of a coherent social policy for subsidising/reimbursing assistive technology products and the lack of coordination between the stakeholders involved.
- High assistive technology ICT equipment prices (i.e., which result in lower overall sales volume).

# COMPLEX EU AT INDUSTRY:

- AT ICT industry in the EU complex
  - Large number of products
  - Large number of small firms
  - Different service provider systems that are used to get AT ICT products to disabled end-users
- Growing group of people in need of AT, young **and** old
- Different policies in the EU countries, and regions



## END-USERS:

- Surveys and state of the art analysis conducted in 2009, 2010, 2011
  - AEGIS project
    - Focus on understanding the satisfaction of people with AT usage
  - ACCESSIBLE project
    - Understanding the accessibility of EUs public web
  - ViPi project
    - Understanding the need for basic ICT skills training



# END-USERS:

- AT industry issues:
  - Local language versions of AT software are missing (English only).
  - Compatibility problems arise with AT (voice recognition and screen reader software) and hardware.
  - European research and innovation on AT is characterised as poor, caused mainly by the insufficient size and the fragmented nature of the national markets.
- Policy issues:
  - Incoherent social policy for subsidising/reimbursing AT products. Some countries offer full refunds (e.g. Belgium) based on a reference list, while some cover nothing (e.g. Greece).
  - Lack of specialised agencies and staff to assist people with disabilities in making their choice.

# END-USERS:

- End-user issues:
  - Awareness
    - End-users are largely unaware of the available AT solutions (albeit that people with vision impairments seem to be very well informed about available AT).
    - AT that are easiest to obtain are also the ones most abandoned.
    - Non-use arises less frequently among people with repeated provision, compared with first-time users of AT.
  - Price
    - High purchasing costs for end users are reported as a major barrier for wider deployment by disability organisations, especially in those countries where no government support exists (e.g. Greece).
    - Prohibitive cost of specialist equipment for visually impaired people does create a barrier.

# END-USERS:

- End-user issues:
  - Mismatch between needs end user and offered AT
    - End users are not provided with the required AT, resulting in a high percentage (up to 30% in the USA) of obtained ATs being discarded within a year.
    - AT that is being offered does not satisfy the actual needs of the people with disabilities, hence their refusal to use them.
    - According to some survey, almost half of the end-users experience problems using AT.
    - This mismatch between the needs of the end users and the actual AT they are being offered can be directly linked to the poor assessment of consumer needs and preferences.



# END-USERS:

- End-user issues:
  - Lack of training:
    - Previous training that is needed to use AT (basic ICT skills training), and that requires a professional to train the user to manage and use these devices is often lacking .
    - Training is often followed for computer usage, but proves to fall short of expectations. Users therefore often rely on friends to help them out.
    - There is a lack of (local and accessible) dedicated training in AT products and their capabilities (e.g. for technical experts, but also for end- users), resulting in end users having AT they cannot use to a full extent, or in some cases not at all.

# AT INDUSTRY:

- Private AT industry:
  - Databases of available solutions
    - Detailed description of functionalities, pros and cons.
    - Enlisting free, open source alternatives per commercial solution.
  - Basic ICT skills train ahead of AT training.
    - The Lisbon Summit identified ICT skills as one of the new basic skills for a knowledge-based economy.
  - Increased awareness training for PwD



# POLICIES:

- Policy measures:
  - A new approach towards “lending” of AT instead of purchasing.
  - Unifying of social support models across EU member states.
  - Unified legislation vis-à-vis EU AT providers



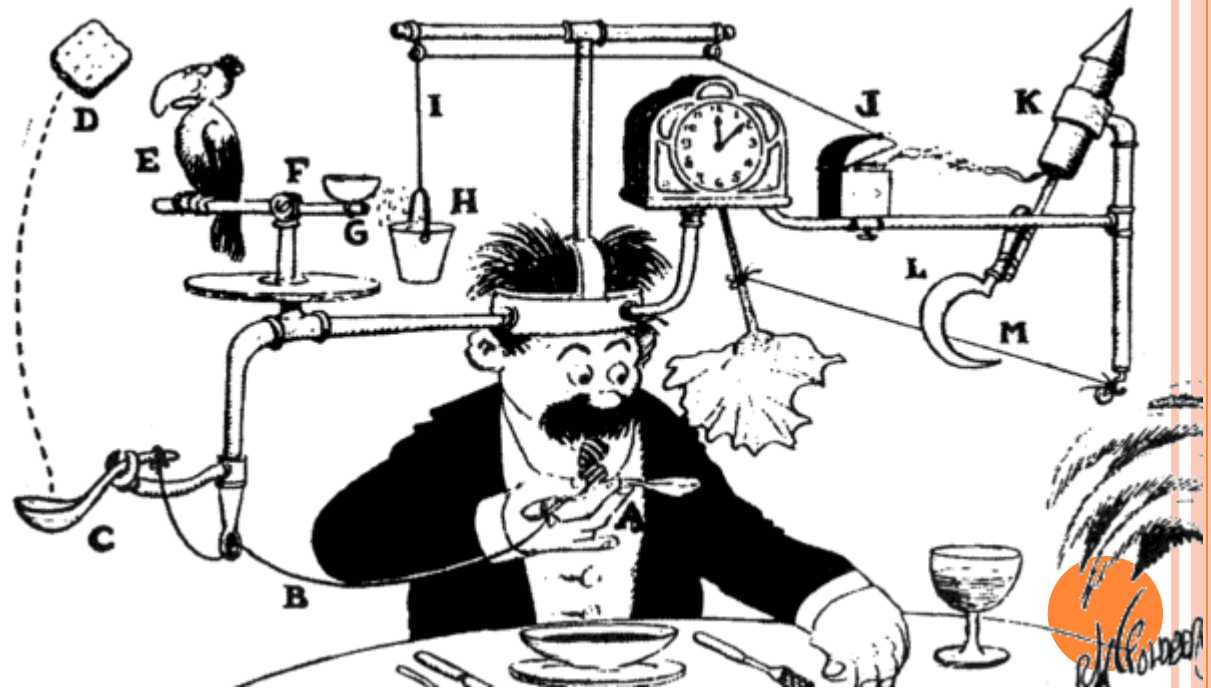
## CASE STUDY:



- Identified barriers in AT usage in Greece
  - Only 4 in 10 PwD aware of AT solutions that meet their accessibility needs in using ICT.
  - 11% of non-users of ICT with a disability believe that their disability prohibits them from using AT.
  - 9% indicates that there is no AT adapted to their needs.
  - Non-use of ICT attributed to lack of digital skills for 23% of non-users with a disability.
  - 45% of all participants with a disability believe that using ICT and AT requires a high level of digital skills.
  - Dwindling social support due to austerity measures in Greece.



(e) Inclusion stops where the beneficiary cannot understand or afford (ICT Based) solutions.



## ATLEC FINALITÀ E OBIETTIVI

- Promuovere **lo sviluppo di competenze ICT AT** tra le persone con disabilità all'interno di una prospettiva di formazione continua.
- Sviluppare **contenuti, modalità di erogazione e pratiche innovativi** per l'apprendimento permanente in ICT AT.
- **Esplorare competenze professionali nuovi** rilevanti per i bisogni del mercato del lavoro: New Skills for New Jobs.

## ATLEC – A CHI SI RIVOLGE?

- **Persone con disabilità** (allievi e potenziali formatori) che intendono sviluppare le loro competenze in ICT AT
- **Formatori** nell'ambito delle ICT AT e centri di formazione, enti di istruzione e formazione professionale
- Responsabili delle **Risorse Umane** in aziende che desiderano migliorare le proprie conoscenze nel campo ICT AT

## RISULTATI ATTESI

- La strutturazione di **un curriculum flessibile di apprendimento** in ICT AT che risponda ai bisogni individuali di ciascuno e di averlo sperimentato in 4 paesi.
- L'implementazione di **una piattaforma online e mobile** per gli apprendimenti.
- Rendere il lavoro più accessibile per le persone con disabilità tramite la disponibilità di **un'apprendimento mirato che integri soluzioni ICT AT nel percorso di matching persona-mansioni-ambiente**.
- Preparare il terreno per **un'ulteriore sviluppo delle competenze** delle persone con disabilità in ICT AT.



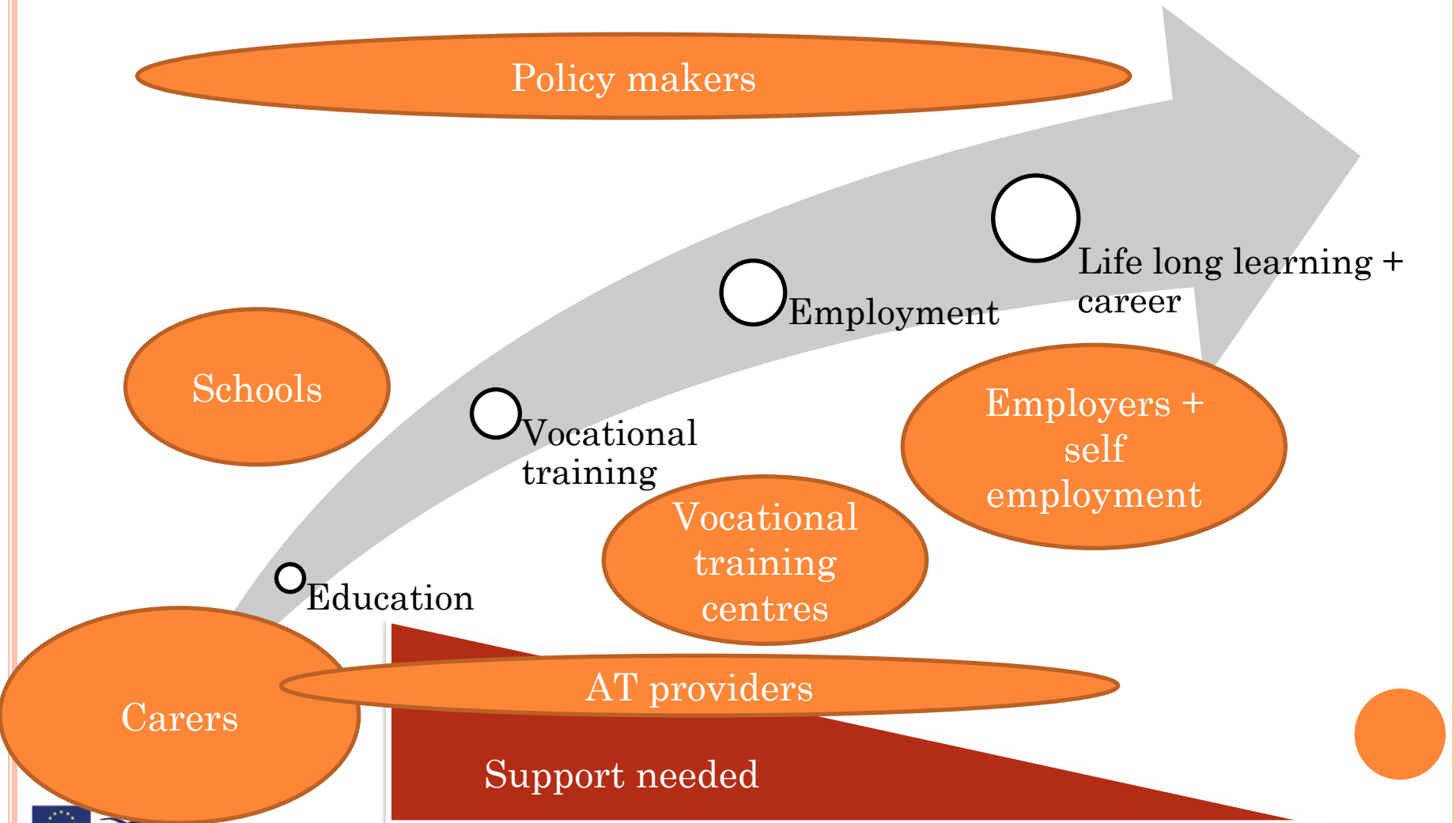
## LE OPPORTUNITÀ OFFERTE DA ATLEC

- Un **confronto con altre realtà** in Europa rispetto alla formazione ICT AT alle persone con disabilità
- L'opportunità di **contribuire** alla definizione di un curriculum condiviso fra partner in più paesi
- L'opportunità di **“personalizzare” e sperimentare** il curriculum e i materiali formativi offrendo nuove opportunità a persone con disabilità
- Rivedere le pratiche operative della rete a supporto delle persone con disabilità e/o **agganciare** queste pratiche ad un modello “europeo” di formazione/addestramento all'uso delle ICT AT

## ATTIVITA' GIA' SVOLTE

- Comitato tecnico scientifico
- Analisi modelli formativi esistenti
- Incontri/focus group con persone con disabilità
- Questionario fra operatori, formatori, policy maker
- Creazione di un modello di riferimento per la individuazione di “stakeholder” e “gatekeeper”
- Definizione delle specifiche della formazione
- Definizione preliminare curriculum

# Modello di riferimento per la formazione: attori e percorsi



## PROSSIMI PASSI

- Definire il curriculum di base capace di inserirsi in questo modello
- Definire il manuale per lo sviluppo di percorsi formativi “su misura”
- Sperimentazione
- Validazione e disseminazione

## Modello di servizio

- Percorsi di supporto alle persone con disabilità (prevalentemente con disabilità motoria, ma non solo) nella individuazione di soluzioni tecnologiche appropriate.
- Appartiene ad una rete di servizi integrati (Provincia, enti di formazione, AUSL, etc.)

**Aspettative**

- Ripensare la formazione in ICT AT alle persone con disabilità
- Migliorare i percorsi di inserimento lavorativo
- Integrazione di nuove metodologie per la formazione nel modello di service delivery
- Sperimentare le nuove piattaforme portatili nei percorsi di formazione e supporto

# COLLEGATI !



- **Web site:** [www.atlec-project.eu](http://www.atlec-project.eu)
- **Twitter:** [Twitter.com/ATLEC\\_project](https://twitter.com/ATLEC_project)
- **Facebook:** [www.facebook.com/ATLECproject](https://www.facebook.com/ATLECproject)

## Contatto:

AIAS Bologna onlus  
[info@ausilioteca.org](mailto:info@ausilioteca.org)  
Giorgia Brusa

