



AN E-TRAINING PLATFORM DEVELOPED TO IMPROVE SKILLS AND KNOWLEDGE OF ELDERLY WITH REDUCED MOBILITY IN USING ASSISTIVE TECHNOLOGIES

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MOBILITY AND AGING

- Mobility defined as the ability of an individual to purposively move about the environment is an essential aspect of our everyday life. Not surprisingly, limitations or reduced mobility are affecting an individual's health and wellbeing in multiple ways including autonomy, social inclusion, economic independence etc. This is impacting primarily people above retirement age whose number is expected to reach 1.5 billion in 2050.



Source: <https://stocksnap.io/photo/active-senior-GGAN3U3C2J>

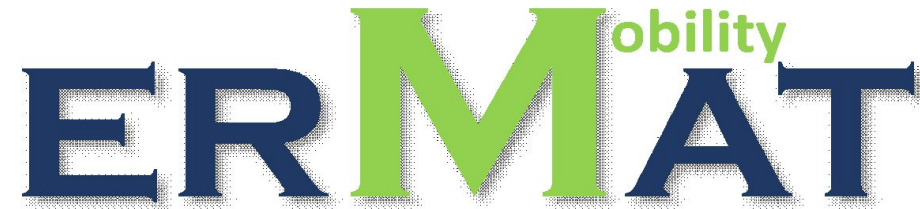
ASSISTIVE TECHNOLOGIES



Source: shorturl.at/lvHRS

- Assistive technologies (ATs) comprise products, resources, methods, strategies, practices and services that provide support for persons with reduced mobility such that they can maintain their autonomy, independence, QoL and social inclusion [1]. The development of ATs is aiming to neutralize the barriers caused by reduced mobility and related disability.

THE ERMAT PROJECT

The logo for the ERMAT project, featuring the word "ERMAT" in a bold, blue, serif font. The letter "M" is significantly larger than the others and is colored a vibrant green. To the right of the "M", the word "obility" is written in a smaller, green, sans-serif font, with the "o" overlapping the right side of the "M".

ERMATobility

- The ERMAT project is an Erasmus+ project, launched with the main objective of increasing the competences (attitudes, knowledge, skills) of Elder Persons with Reduced mobility (EPRM), Informal Caregivers and Professionals on the application of Assistive Technologies for improving their Quality of Life.
- The two main objectives of the ERMAT project are to inform about available ATs and their application to specific needs, and to create an e-learning environment for knowledge and good practices exchange among the intended users of the platform (EPRMs).

DESIGNED PRACTICAL TRAINING ACTIVITIES

- The reduced mobility of elderly people can prove to be a barrier when it comes to living happy, fulfilling lives. Regarding the activities where EPRMs might need assistance in order to live autonomous lives, necessary routines were identified and divided into 6 categories or designed practical training activities (DPTAs):
 - Quality of life (QoL) of EPRM (routines and importance of ATs)
 - Feeding myself (preparing food and feeding)
 - I want to feel handsome (personal appearance and hygiene)
 - How to get along in my own house? (creating a safe and supporting home space)
 - I want to go out (walking and transport)
 - Taking care of myself in advance. Anticipating possible problems (prevention)

DESIGNED PRACTICAL TRAINING ACTIVITIES



Source: <https://pixabay.com/photos/park-men-elderly-wheelchair-cat-4098286/>

- Different types of educational materials were designed for each category, their aim being the training of both EPRMs and their caregivers in the selection and usage of assistive technologies (ATs).

DESIGNED PRACTICAL TRAINING ACTIVITIES

- Materials were prepared in 7 languages for both EPRMs and the future trainers interested in instructing EPRMs. For EPRMs, there is a PowerPoint presentation for each theme and a handbook for using the ERMAT e-Training Platform.
- For trainers, there are similar PowerPoint presentations, instructions for practical and group dynamic activities in a form of a methodological guide and a training plan, and a comprehensive handbook about reduced mobility and its consequences.

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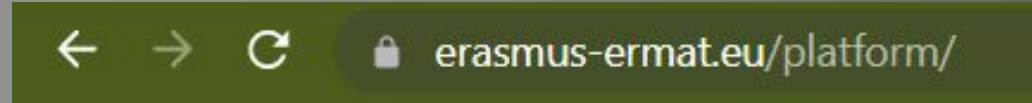
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Source:
<https://erasmus-ermat.eu/platform/>

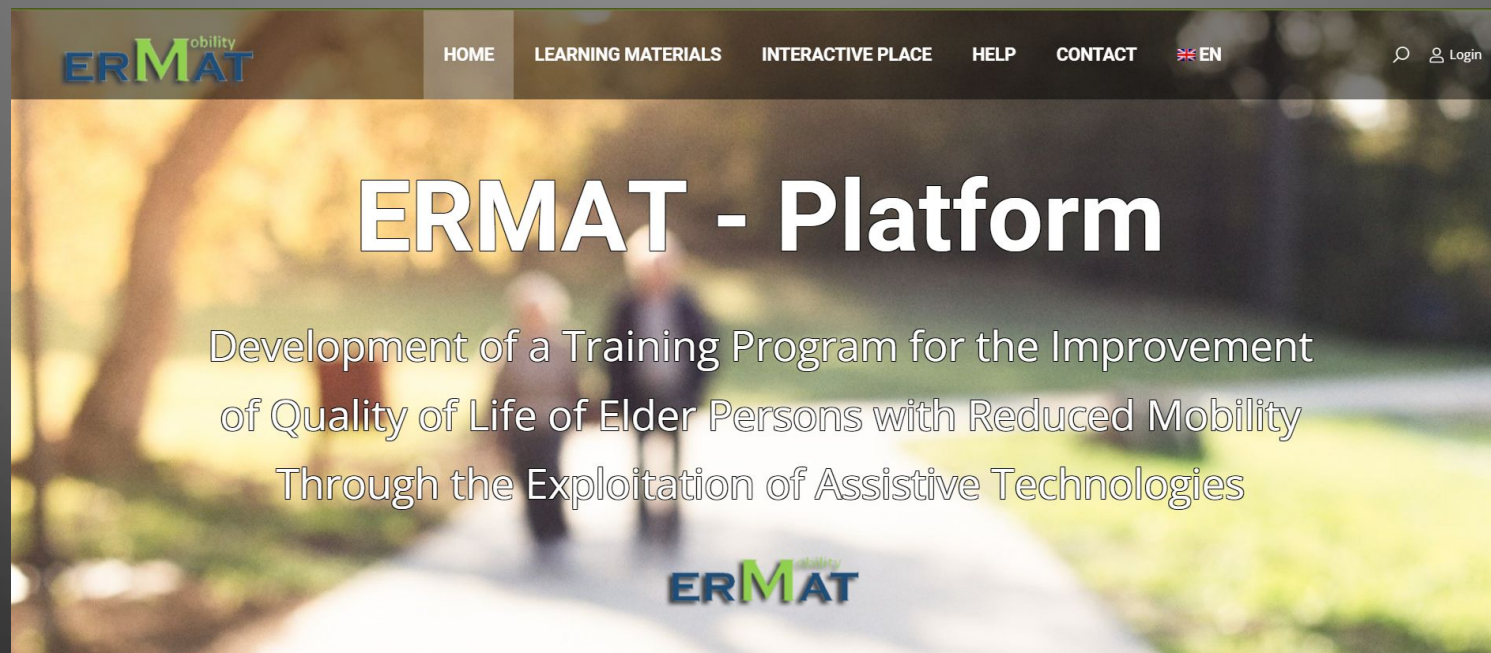
THE ERMAT E-TRAINING PLATFORM



- The educational materials of the ERMAT Project needed a space where they could be available for exploitation by the elderly users and their caregivers, and a website was the most adequate choice for this purpose. Thus, the materials were uploaded to the ERMAT e-Training Platform, an online space especially designed for the training of EPRMs.
- On this platform, users (EPRM, formal and informal caregivers) will be able to learn about assistive technologies (ATs) which can help compensate for their reduced mobility [2]. In addition, the platform also aims to connect elderly people with reduced mobility with their peers, creating a support network, a place where seniors can talk about the issues they encounter in everyday life, the barriers reduced mobility present for them, and find ways in which to overcome them.

THE PLATFORM HOMEPAGE

- The homepage is the general page of the platform, which presents information about the project and what it hopes to achieve.



Source: <https://erasmus-ermat.eu/platform/>

LEARNING MATERIALS AND COURSES

- Learning materials are divided into learners' materials, for EPRMs, and trainers' materials, for the interested professionals who are going to train seniors with reduced mobility from their country/region. The materials for both learners and trainers are divided into the 6 aforementioned categories called DPTAs.



Quality of Life of Elderly with Reduced Mobility

To maintain a good quality of life one must take care of themselves, maintain mobility, stay social and take care of one's safety. As we age many will find performing important tasks and activities increasingly challenging. In this section we will learn about quality of life routines, finding the right support and using assistive technologies to regain confidence, self-respect and independence.



Presentation - Quality of Life

Source: <https://erasmus-eremat.eu/platform/learning-materials/learners/>

PRESENTATION OF ONLINE MATERIALS

ERMAT mobility

HOME LEARNING MATERIALS INTERACTIVE PLACE HELP CONTACT EN

to the doctor – or our more complex needs – like socializing with family or visiting friends. In this section we will find materials that tell us exactly what

Wheelchair




Image sources: (9)




Image source: Steven HWG on Unsplash

Specs sheet

What is it?
A chair fitted with wheels for use as a means of transport. Mostly used for people who cannot walk at all. The motorized device has an electronic mechanism built in, which allows the user to make the wheelchair go automatically, by the use of a controller⁶.

Types of wheelchairs
Manual; with electric engine (motorized); foldable; with basket for groceries.

Mobility problem which it resolves
Gives EPRMs the possibility to get from one place to another with little or no help from somebody else.

Materials
Metal frame (steel, titanium etc.); wheels of foam, solid rubber or pneumatic; textile or leather chair.

Price range
Between 400 and 2700 RON/90-550€ (manual); Between 3500 and 8100 RON/730-1850€ (electric).

Where can I find it?
eMag; Artromedicale; Ortomag; Amazon; eBay; any store specialized in medical devices.

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INTERACTIVE PLACE



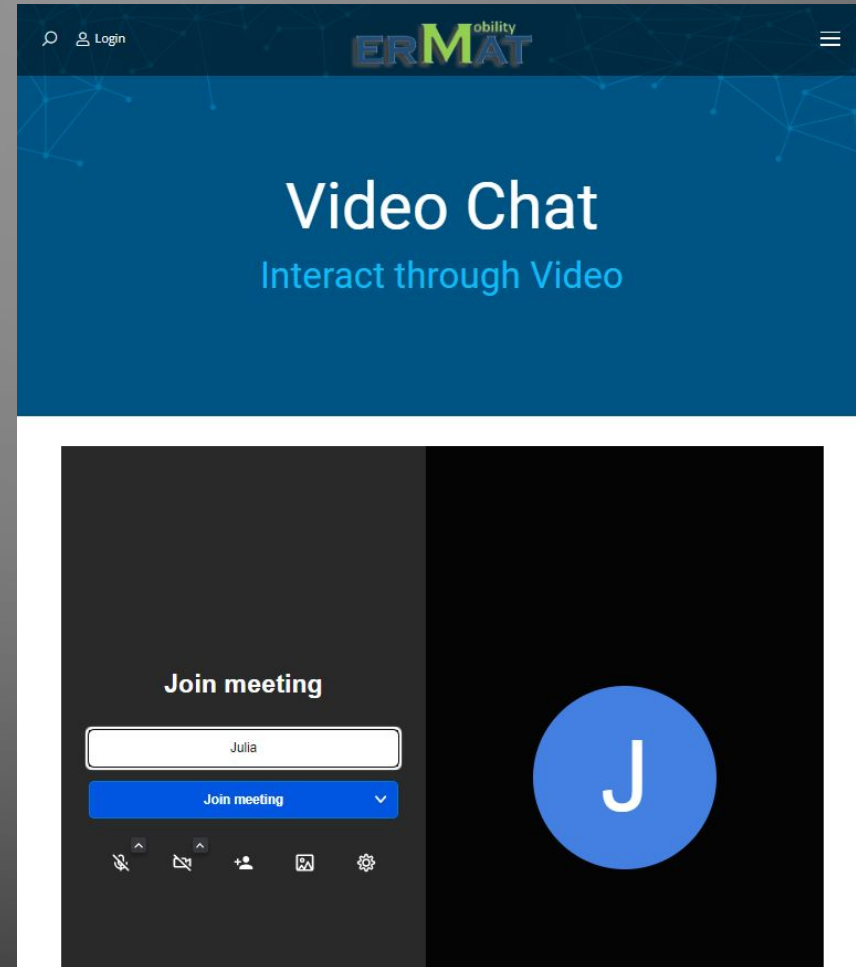
Topic	Voices	Posts	Last Post
fujud Started by: name	0	1	1 week, 6 days ago name
Topic 3 Started by: admin	2	8	6 months, 3 weeks ago ERMAT Trainer 1
Topic 1 Started by: admin	0	1	8 months ago admin

Source: <https://erasmus-eremat.eu/platform/interactive-forum/>

- The Interactive place contains 3 sections: the Forum, the Video Chat and the Wiki.
- The Forum is designed to give the users a place where they can exchange information, connect with peers, ask questions regarding a variety of topics and share their experiences with others. This feature can be used both by EPRMs and trainers.

VIDEO CHAT

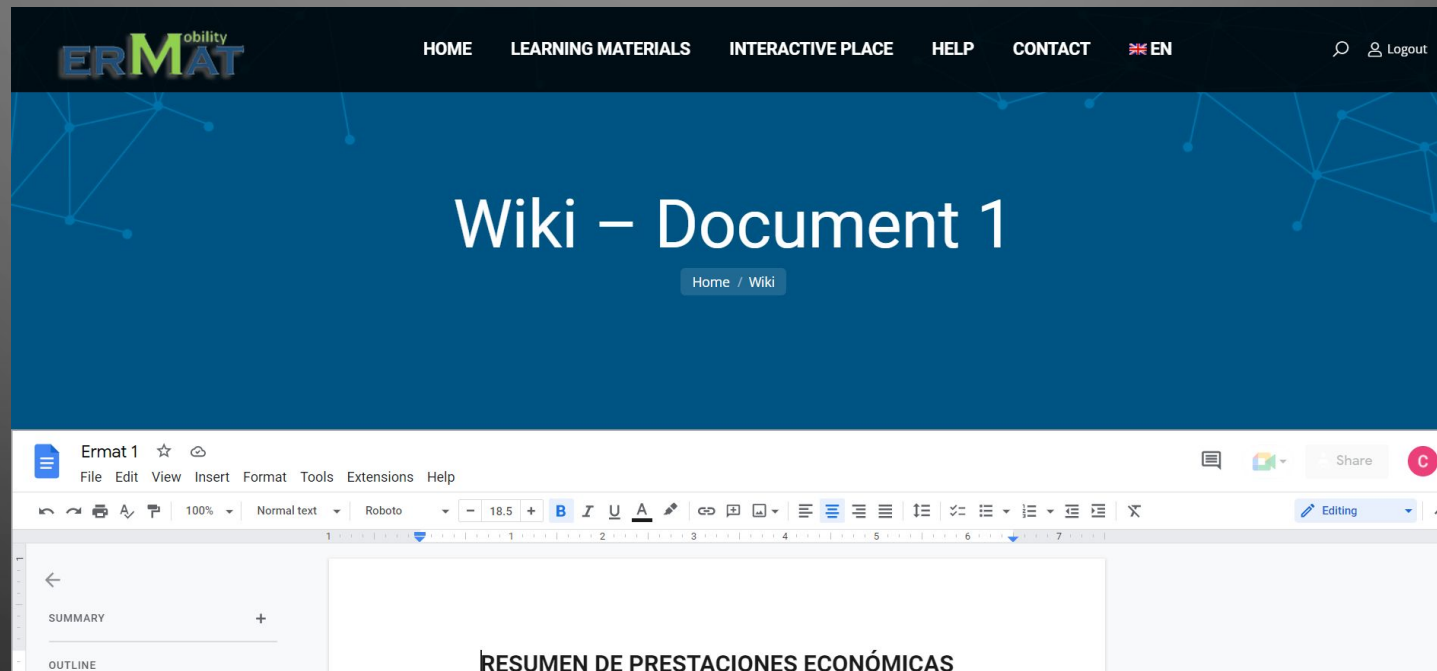
- The Video Chat is the place where users can meet and talk online, by video and audio means. It works similar to any video conferencing application, having the functionality of audio and/or video communication.



Source: <https://erasmus-ermat.eu/platform/video-chat/>

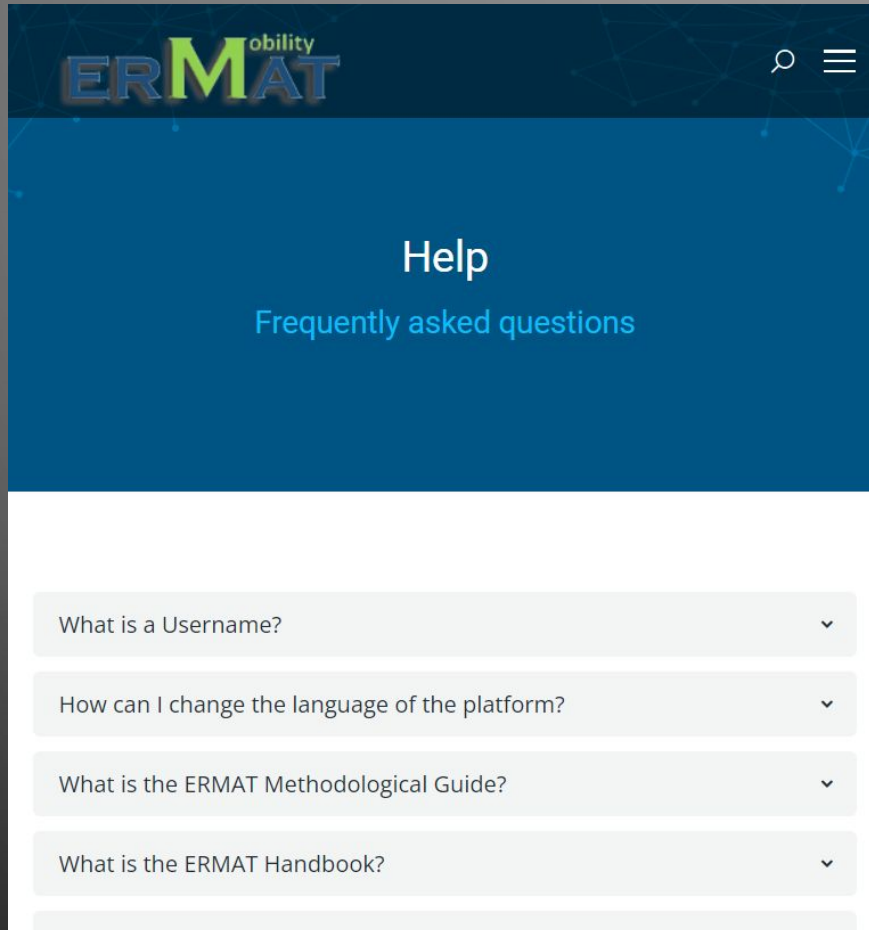
WIKI

- Wiki is the place where users can participate in collaborative documents designed by trainers. These documents are a part of the online training, the home assignment session, and have the aim of putting in place the newly learned competences.



Source: <https://erasmus-ermat.eu/platform/main-wiki/>

HELP AND FREQUENTLY ASKED QUESTIONS SECTION

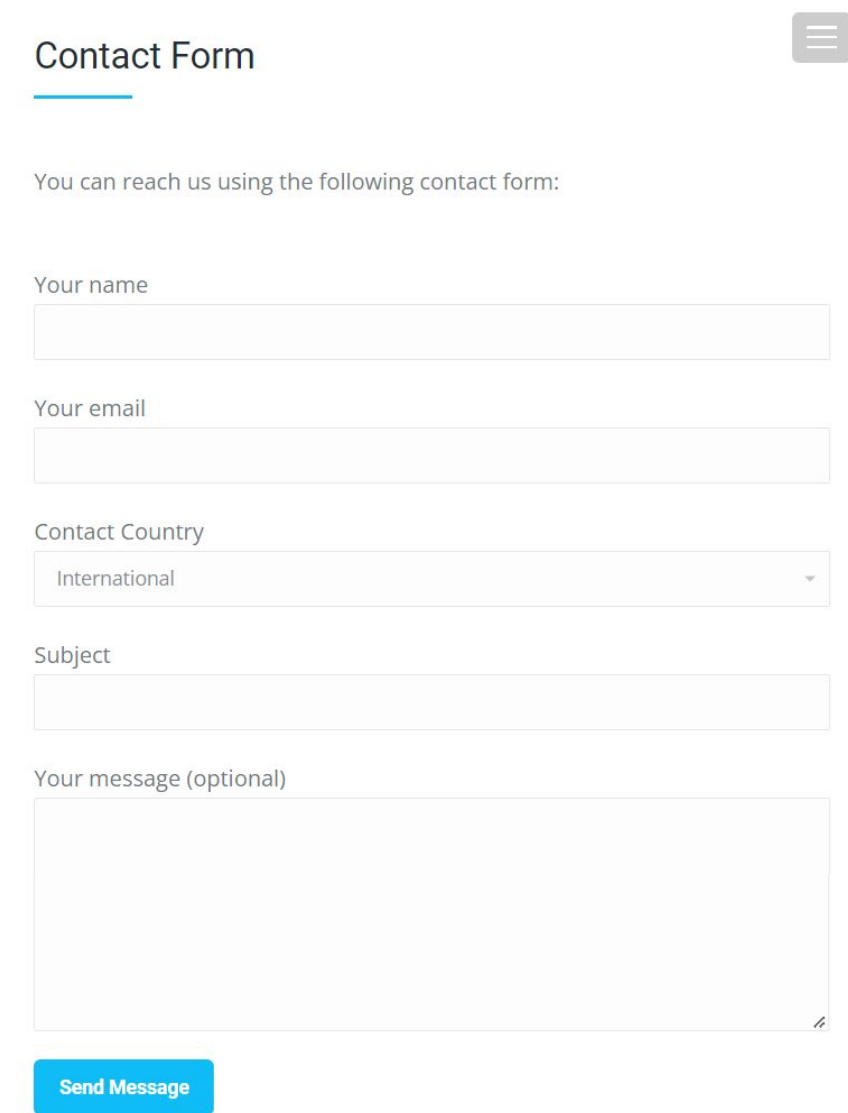


- This section was created to answer the questions users usually have regarding certain functions of the platform, how to employ features and how to find information.

Source: <https://erasmus-ermat.eu/platform/help/>

CONTACT SECTION

- The contact page has the main purpose of facilitating the communication between the users of the platform and the admins/creators. It can be used for questions that do not appear in the FAQ section, questions that cannot be answered in the forum section by other users and, also, for requesting access to the trainer's materials.



Contact Form

You can reach us using the following contact form:

Your name

Your email

Contact Country
International

Subject

Your message (optional)

[Send Message](#)

Source: <https://erasmus-eremat.eu/platform/contact/>

ERMAT PLATFORM VALIDATION

ERMAT - Assessment Questionnaire of DPTA 3 - 'I want to feel handsome'

* Required

Age: *

Your answer _____

Gender: *

Female

Male

Other / I prefer not to say

Source: <https://forms.gle/x8zgw3asD2VU4RfN6>

- The next step was to obtain the users' feedback. The validation was implemented with 120 users (EPRMs, formal and informal caregivers) from Spain, Slovenia, Greece, Romania, Croatia and Germany. The validation was mostly relying on established methods, such as UEQ-S [3] and SUS.

ERMAT PLATFORM VALIDATION

- All 120 participants in the validation sessions highlighted the usability of the ERMAT e-Training platform. The design was mostly perceived as easy to understand, and the participants navigated its functionalities without significant problems.
- Seniors considered that the materials presented on the platform were useful and facile to learn. The fact that every AT presented had one or more pictures for reference supported their understanding of these assistive devices and their functionality.



Source:
<https://pixabay.com/illustrations/cane-the-crutch-stick-support-4663373/>

ERMAT PLATFORM VALIDATION



Source: <https://www.flickr.com/photos/thearches/5907960975>

- With regard to the activities implemented by the trainers, both seniors and caregivers were excited to play games, and better understand each other through these games. All the participants appreciated the group dynamic and practical activities, especially the ones that included role play or a considerable interaction with others.

ERMAT PLATFORM VALIDATION

- The quality of the received training (materials, activities) was considered good to very good. Materials were up-to-date and explained well everything there is to know about assistive devices. Moreover, presentation of the materials and activities established a much broader understanding of the different aspects of mobility.



Source:

<https://depositphotos.com/194514562/stock-photo-professional-businesswomen-project-presentation-office.html>

CONCLUSION



Source:

<https://pixabay.com/photos/rollator-old-retirement-home-2298056/>

- All things considered, the ERMAT e-Training platform had a favourable outcome and can offer real benefits for EPRMs and their informal or formal caregivers.

REFERENCES

- [1] R.F. dos Santos, P.Y.S. Sampaio, R.A.C. Sampaio, G.L. Gutierrez, and M.A.B. de Almeida, “Assistive technology and its relationship to the quality of life of people with disabilities”, *Rev. Ter. Ocup. Univ. São Paulo*, vol. 28, no. 1, pp. 54-62, 2017.
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