



Smart, Personalized and Adaptive ICT Solutions for Active,
Healthy and Productive Ageing with enhanced Workability

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Executive Summary

Sound Innovation and Intellectual Property Rights (IPR) management is essential in order to enable the successful exploitation and market deployment of Ageing@Work's assets. Therefore, the consortium of Ageing@Work places great emphasis in managing innovation and IPR in the framework of the project, with a view to effectively paving the way for the smooth exploitation and sustainability of its results following its completion.

The current report presents the initial version of Ageing@Work's Exploitation and Sustainability Plan, encompassing the project's Innovation and IPR Management Strategy. This document sheds light on the key terms and procedures pertaining to the management and protection of intellectual property and lays down the main components of the relevant methodology to be applied throughout the project (IPR Matrix methodology).

Along these lines, Ageing@Work's assets as envisioned at this stage of the project are also presented, along with a brief overview of the actions that have been implemented during the first 12 months of the project towards the implementation of the Exploitation and Sustainability Plan. The report will be further elaborated and updated as the project progresses. At the end of the project, when all the tools of the project have been developed and validated, the final version of the Exploitation and sustainability Plan will be developed (M36). This report will specifically describe the project's assets and their main exploitation routes, the target groups per project asset along with their value propositions, the general terms of use of each asset and the relevant IPR provisions, the joint exploitation plans for the consortium as well as per individual project partner, the means and procedures for the exploitation of the assets and a roadmap to this end.

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List of Terms and definitions

Table 1. Definitions.

Abbreviation	Definition	Abbreviation	Definition
BG	Background	FG	Foreground
CA	Consortium Agreement	IP	Intellectual Property
EC	European Commission	IPR	Intellectual Property Rights
EPC	European Patent Convention	TBD	To be determined
ER	Exploitable Results	WIPO	World Intellectual Property Organisation
EM	Exploitation Manager	WP	Work Package
GA	Grant Agreement		

1. Introduction

1.1 Scope of the deliverable

The Ageing@Work partners are committed to produce results that will be sustainable after the project's completion, all while ensuring that innovative ideas emerging from the project are fully identified and investigated in terms of exploitation potential. To this end, Ageing@Work places great emphasis on managing the Intellectual Property Rights (IPR) of the partners' ideas and project results. With that in mind, the current document constitutes the **initial version** of Ageing@Work's **Exploitation and Sustainability Plan**, which lays down the strategy and basic principles of the project in this respect.

1.2 Relation to other activities and deliverables

The initial version of the **Exploitation and Sustainability Plan** will serve as the basis for the activities to be implemented in the framework of **Task 8.4** towards sound innovation management as well as towards exploitation and sustainability of the project's results after the end of the grant. The Exploitation and Sustainability Plan will be updated at the end of the project (after final results have been acquired), in order to reflect the final version of the partners' plans and actions aiming at exploiting the Ageing@Work assets. Along these lines, the **Dissemination Awareness raising and Communication Plan (D8.1)** is highly relevant to this deliverable as it guides the Ageing@Work partners in effectively communicating the project's results with a view to nurturing the ground for the successful rollout out of the Ageing@Work's assets.

1.3 Structure of the deliverable

The initial version of the **Exploitation and Sustainability Plan** comprises **6 chapters**, as follows:

- **Chapter 1** provides introductory information about the context in which this report has been elaborated, its relation to other project activities, as well as to its structure.
- **Chapter 2** clarifies the key terms pertaining to IPR management of the project, defines the underlying objectives and explains the main intellectual property protection instruments.
- **Chapter 3** outlines the IPR management strategy and its underlying stages in the context of Ageing@Work and describes the methodology to be followed in this respect.
- **Chapter 4** introduces the IPR Matrix and explains the procedures followed in order to identify the Ageing@Work background and foreground IPs as well as the project's exploitable results, as perceived at this stage of the project.
- **Chapter 5** offers a brief overview of the progress that has been achieved over the first year of the project towards the implementation of the project's Exploitation and Sustainability Plan.
- **Chapter 6** concludes on the next steps that need to be taken towards successfully exploiting the assets of the project.

2. IPR Management Overview

The following subsections aim to set the objectives as well as to clarify the main terms concerning the key elements of IPR management, which represent the principal aspects of the procedures that will be employed in the framework of implementing the project's Exploitation and Sustainability Plan.

2.1 Objectives

Ageing@Work's IPR management objectives embrace the need to protect project's assets in order to handle and manage efficiently all the outcomes that will stem during the project's life span with a view to ensure the commercial rollout of the Ageing@Work exploitable results, along with their proper dissemination. To this end, the main objectives of the Ageing@Work's Innovation and IPR Management Strategy are the following:

- Describe the IPR management methodology to be followed within the context of Ageing@Work.
- Identify the assets that will emerge from the activities foreseen within the lifecycle of the project thus, determining an asset portfolio from the early stages of the project.
- Develop a common understanding among the Ageing@Work's partners, concerning terms and issues of the background and foreground IPs and respective access rights.
- Conceptualise a preliminary framework of the IP protection that will be employed in each identified exploitable asset of Ageing@Work.
- Define and eventually dissolve any possible conflicts in IPs within the consortium and beyond.
- Establish common guiding routes and actions within the consortium to safeguard the smooth operation of the IPR strategies to be implemented.

In general, the key concepts to consider for designing the Innovation and IPR management strategy of H2020 projects are the following:

- Background IP knowledge
- Foreground IP knowledge
- Exploitable results
- Dissemination channels
- Access rights

Therefore, the following subsections aim to clarify the main terms concerning the key elements of IPR management, which represent key aspects of the IPR management procedures of the project.

2.2 Background

Background IP can be defined as data, know-how or information – including any rights - owned or licensed to a project partner prior to the commencement of the agreement and needed to implement the action or exploit the project's assets¹. The background needed for carrying out the project activities or exploiting the underlying results must be accessible to the other project partners on a royalty-free basis. Under this frame, all project partners must identify the background that is pertinent for the project actions and grant access rights to this IP, in principle². The background of a project can be identified and agreed (i) within the consortium agreement, after the internal evaluation of pre-existing knowledge, or (ii) in a separate agreement ("agreement on the background"). In this respect, there are two main aspects to consider when dealing with the background of a project³:

- Identification of background: Naming of the assets that each project partner provides to the consortium and which are imperative for successful implementation and exploitation of the project actions.
- Definition of Access Rights: Clarification of the rights to use knowledge under the terms and conditions agreed within the consortium and in alignment with the underlying background rules and obligations set by the EC in order to ensure the smooth implementation of the project.

2.3 Foreground

Foreground refers to the results and assets that are generated through the implementation of the project activities, including pieces of information, materials, and knowledge⁴. These results comprise any tangible or intangible output of the project's actions which can be protectable or not. In this respect, foreground IP can arise and be obtained from project partners in order to protect and exploit the underlying exploitable assets of the project. It includes intellectual property rights (e.g. copyrights, industrial designs, patents), similar forms of protection (e.g. rights for databases) and unprotected know-how (e.g. confidential material). It should be noted that results generated outside the project activities cannot be defined as foreground.

The Grant Agreement of Ageing@Work establishes that the results of the project are owned by the project partner who generates them⁵. Given the collaborative nature of the project, some results can be jointly developed by several partners. In this case, joint ownership can arise among the contributing partners and is subject to the agreement on the allocation and terms of the exercise of their joint ownership. Although regulations concerning the framework of joint ownership are embedded in the Ageing@Work Consortium Agreement⁶, it would be best practice for partners to establish during the project implementation a separate joint ownership agreement in order to define the allocation and terms of exercising their ownership. Each joint owner can grant non-exclusive licenses to third parties

¹ See Article 24.1 of the Ageing@Work Grant Agreement.

² See Attachment 1 in the Consortium Agreement for a detailed description of the Ageing@Work background and the access rights granted in principle for the consortium.

³ See <http://www.iprhelpdesk.eu/sites/default/files/newsdocuments/Fact-Sheet-Background-in-H2020.pdf>.

⁴ For the detailed definition of the Foreground see: <https://iprhelpdesk.eu/glossary/foreground>

⁵ See Article 26.1 of the Ageing@Work Grant Agreement.

⁶ See Article 26.2 of the Ageing@Work Grant Agreement.

to exploit the jointly-owned results unless otherwise agreed in the CA or the joint ownership agreement.

2.4 Exploitable Results

Exploitation of project's results means the utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities⁷. Under this scheme, an exploitable result constitutes a result of the project that meets the following two conditions:

- Has commercial/social/academic relevance;
- Can be commercialised/exploited as a standalone result (product, process, service, etc.)⁸.

Therefore, exploitable results can be a combination or part of a foreground result. Not all foreground items may meet the above conditions⁹.

2.5 Access Rights

Access rights refer to user rights for requesting access to a project partner's background and foreground in order to implement its activities under the project or to use its own results. In addition, access rights can be utilized as long as they are needed for exploiting the project's results and assets. The granting of access rights within a collaborative H2020 project follows specific rules pre-defined in the Grant Agreement¹⁰ and the Consortium Agreement¹¹. Depending on their purpose of use, access rights within Ageing@Work can be depicted in the following table.

Table 2. Access Rights

Purpose for Access	Access to Background	Access to Results
	(Article 25 of Ageing@Work's GA)	(Article 31 of Ageing@Work's GA)
Project Implementation	<ul style="list-style-type: none"> • Royalty-free • Unless otherwise agreed by participants before accession to the GA 	<ul style="list-style-type: none"> • Royalty-free
Exploitation of Own Results	<ul style="list-style-type: none"> • Subject on individual agreement • Granted under fair and reasonable conditions 	

2.6 Protection of Results

When considering IP protection, it must be noted that IP assets can be protected by several types of IPR, and consequently, the most appropriate protection strategy must be chosen. The selection of the

⁷ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary>.

⁸ A patent for licensing is also an exploitable result.

⁹ See European Commission, Dissemination and Exploitation in H2020: http://ec.europa.eu/research/participants/data/ref/h2020/other/events/2017-03-01/8_result-dissemination-exploitation.pdf.

¹⁰ See Article 25 and Article 31 of the Ageing@Work Grant Agreement.

¹¹ See Section 9 of the Ageing@Work Consortium Agreement.

most suitable form of IP protection depends on the nature and specific characteristics of the results under consideration and the objectives of the IP owner.

There are various types of instruments that may be considered for protecting IP. Under the frame of Ageing@Work, meaningful IP protection instruments that can be used are the following:

- Trade and service marks;
- Patents;
- Utility models;
- Copyrights;
- Trade secrets;
- Confidentiality agreements.

Further details with respect to each of the above-mentioned protection instruments are provided in the subsections below.

2.6.1 Trademarks and Service Marks

Trademarks

A trade mark constitutes an exclusive right over the use of a sign in relation to the goods and services for which it is registered¹². Trade marks consist of signs capable of distinguishing the products (either goods or services) of a trader from those of others. The main function of a trade mark is to identify the commercial origin of a product. This does not mean that it must inform the consumer of the actual person who has manufactured the product or even the one who is trading in it. It is sufficient that the consumer can trust in a given enterprise, not necessarily known to him, being responsible for the product sold under the trademark.

Service Marks

In modern trade, consumers are confronted not only with a vast choice of goods of all kinds but also with an increasing variety of services which tend more and more to be offered on a national and even international scale. There is therefore also a need for signs that enable the consumers to distinguish between the different services such as insurance companies, car rental firms, airlines, etc. These signs are called service marks and fulfil essentially the same origin-indicating and distinguishing function for services as trademarks do for goods. Since service marks are signs that are very similar in nature to trademarks, basically the same criteria can be applied. Thus, service mark protection has sometimes been introduced by a very short amendment to the existing trademark law, simply providing for the application to service marks of the provisions on the protection of trademarks¹³.

2.6.2 Patents

A patent is an exclusive right granted for the protection of inventions (products or processes) offering a new technical solution or facilitating a new way of doing something. The patent holder enjoys the

¹² See <https://iprhelppdesk.eu/sites/default/files/2018-12/european-ipr-helppdesk-your-guide-to-ip-in-europe.pdf> for the definition of trade mark in Europe.

¹³ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 68.

exclusive right to prevent third parties from commercially exploiting their invention for a limited period. In return, the patent holder must disclose the invention to the public in the patent application¹⁴.

A patent does not give its owner the positive right to use the patented invention. Third party rights may have to be requested. Still, a patent owner has the right to decide who may or may not use the patented invention throughout the period during which the invention is protected. Moreover, the patent owner may give permission to other parties, or license them, to use the invention on mutually agreed terms. The owner may also sell the right to the invention to someone, who then becomes the new owner of the patent. Finally, patents are granted only country by country, some regionally, and may also be used in non-patented territories. Once a patent expires, the protection ends, and the invention becomes part of the public domain, in the sense that the owner no longer holds exclusive rights in it, and it becomes available for commercial exploitation, free of charge, by others¹⁵.

2.6.3 Utility Models

Also referred to as a “petty patent”, a utility model is an exclusive right granted for an invention, which allows its owner to prevent others from commercially using the protected invention, without their authorisation, for a limited period¹⁶. The inclusion of utility models into the intellectual property system in some countries has the primary objective of nurturing the rapid evolution of indigenous innovativeness, particularly in small and medium-sized enterprises and among individuals¹⁷.

2.6.4 Copyrights

Copyright (or author’s right) is the term used to describe the rights that creators have over their literary, scientific and artistic works. There is not an exhaustive list containing the works that can be protected by copyright. However, there are several works usually covered by copyright at international level¹⁸:

- literary works such as novels, poems, plays, newspaper;
- articles;
- computer programs, databases;
- films, musical compositions, and choreographies;
- artistic works such as paintings, drawings, photographs;
- sculptures;
- architecture; and

¹⁴ Definition of patents in the European context retrieved from <https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf>.

¹⁵ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 17.

¹⁶ Definition of utility models in the European context retrieved from <https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf>.

¹⁷ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 40.

¹⁸ Definition of copyrights in the European context retrieved from <https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf>.

- advertisements, maps, and technical drawings

Copyright protection also includes moral rights, including the right to claim authorship of a work, and the right to oppose changes to it that could harm the creator's reputation. The creator - or the owner of the copyright in a work - can enforce rights administratively and in the courts, by inspection of premises for evidence of production or possession of illegally made “pirated” goods related to protecting works. The owner may obtain court orders to stop such activities, as well as seek damages for loss of financial rewards and recognition. Finally, it is important to note that copyright only protects the expression of ideas represented in a physical embodiment, not the ideas themselves, and provided the expression is original¹⁹.

2.6.5 Trade Secrets

Any confidential business information providing a competitive advantage to an enterprise can be considered a trade secret. The type of information that can be protected as a trade secret is therefore highly diverse. It can include know-how, technical knowledge (potentially protectable as a patent), but also business and commercial data such as lists of customers, business plans, recipes or manufacturing processes²⁰.

2.6.6 Confidentiality Agreements

Confidentiality is an extremely important issue for participants in innovation projects, from the setting-up to the implementation and exploitation phases. Exchanging valuable information with other partners is generally a necessity that regularly occurs in collaborative initiatives or undertakings. Accordingly, confidentiality issues and measures should be taken into consideration in order to safely exchange information, facilitating the project development and ensuring the non-disclosure of sensitive technology, business or commercially confidential information. Confidentiality agreements provide protection and more security to an organisation that is about to share or make available information to another organisation by ensuring that confidential information will be used only for the permitted purposes agreed between the signatories of the agreement and will not be used or revealed to third parties without consent. Therefore, the signature of a confidentiality agreement can be seen as a very important step to keep confidential information secret in order to maintain a competitive edge²¹.

¹⁹ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 40.

²⁰ Definition of trade secrets in the European context retrieved from <https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf>.

²¹ See Chapter Non-Disclosure Agreement of European IPR Helpdesk.

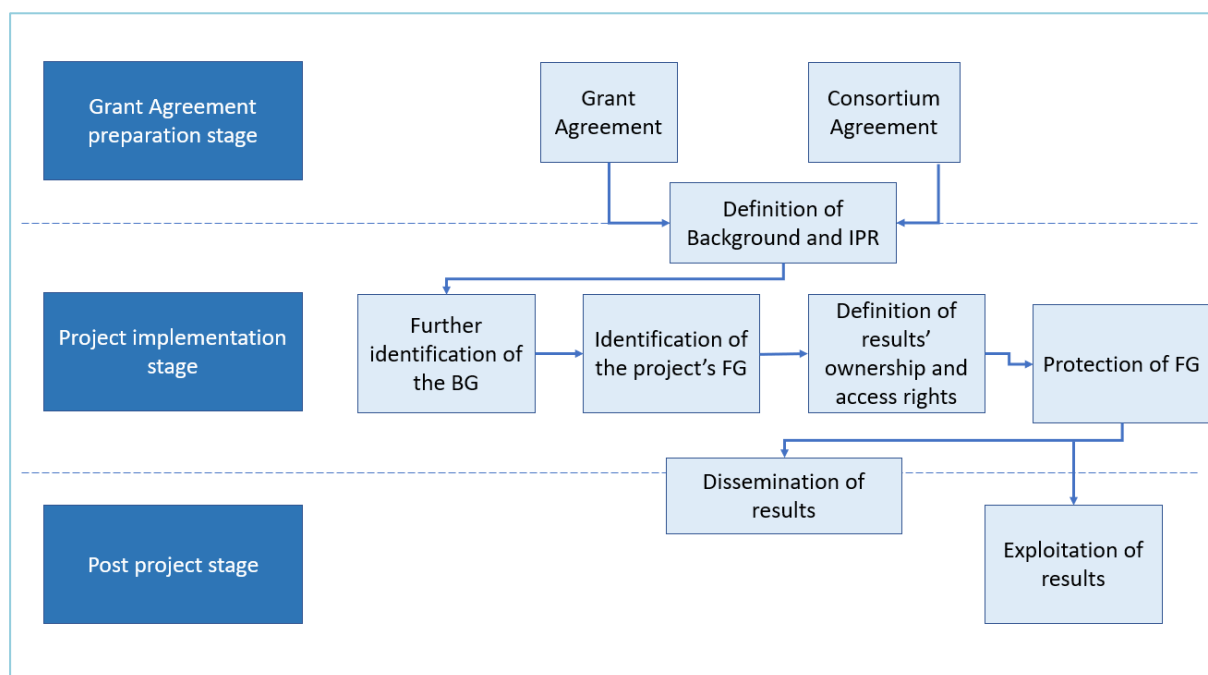
3. IPR Management Strategy

Under the frame of Ageing@Work, key IP and innovation management will be employed, with a view to setting a common understanding concerning the background, foreground, ownership (including joint ownership), access and usage rights as well as dissemination and exploitation during and after the project development. In this respect, the Ageing@Work IPR management strategy applies a comprehensive framework which separates the IP management processes of the project in the following stages:

- **Grant Agreement preparation stage;**
- **Project implementation stage;**
- **Post-project stage.**

In this respect, the following figure illustrates the IPR management stages, as considered within Ageing@Work. More details about these stages are presented in the sub-sections that follow.

Figure 1: Ageing@Work IPR Management Stages



3.1 Grant Agreement preparation stage

Both the Grant Agreement and the Consortium Agreement constitute documents which include a description of several issues related to IPR. Their unique provisions represent a reference point for IPR issues within the project partners. In this respect, any further advancements regarding IPR actions to be put in place by project partners will be facilitated under the underlying provisions.

3.1.1 Grant Agreement

The Grant Agreement constitutes a contract which sets out the key rules and conditions of the project and is conducted between the EC and the Ageing@Work partners. It represents the main contractual basis for Ageing@Work while its main points and sections referring to IPR are included in Section 3

“Rights and obligations related to Background and Results”²². Under this scheme, the management of the Ageing@Work IP is regulated, whereas access rights and obligations related to the background are set. In addition, the GA defines issues concerning the ownership and protection of the project’s generated results, as well as their exploitation and dissemination outcomes. Finally, transferability and access rights to results are also defined in the Ageing@Work GA.

3.1.2 Consortium Agreement

The Consortium Agreement constitutes a contract among the partners of Ageing@Work consortium which aims to define rights and obligations within the partnership for the purposes of carrying out the project’s foreseen actions and activities²³. The CA minimises the probability of later disputes as it provides rules and responsibilities during the project as well as defines the access rights to be granted to the partners concerning the project. In addition, rights and responsibilities are outlined among the consortium members concerning issues of the IP.

The Ageing@Work Consortium Agreement main points and sections referring to IPR are contained in:

- **Section 8 “Results”**, that sets out provisions on ownership and joint ownership of results, as well as on their transfer and dissemination.
- **Section 9 “Access Rights”**, which clarifies the access rights governing principles along with the access rights for the exploitation and dissemination purposes. It also states specific provisions for access rights to the software.
- **Attachment 1 “Background included”** that presents the initial list of usable background.

3.2 Project implementation stage

During the implementation stage of the project, IP handling procedures are foreseen to be applied among the Ageing@Work partners in order to properly organise results/ assets management of the project. In this respect, as the project evolves, the focus will be on foreground identification, assets’ ownership, access rights, and protection, as well as the exploitation and commercialization of the project’s results. The Ageing@Work IPR management emphasises on establishing robust handling procedures of the IPR issues that are of strategic importance to the project in order to facilitate exploitation of its results.

Therefore, partners should focus on two different points:

- Providing access rights to their knowledge for other partners to carry out their work on the project.
- Establishing early asset identification procedures with a view to protecting, disseminating and exploiting the project’s assets.

In this respect, key IP related issues in the Ageing@Work implementation phase include:

3.2.1 Background identification

During the first stages of Ageing@Work, it is imperative to identify the relevant knowledge, know-how, and data of partners, complementary to those outlined in the consortium agreement, which constitute the background of the project. Under this framework, the underlying background can be attached to

²² In particular, see Articles 23a – 31 of the Ageing@Work Grant Agreement.

²³ See IPR helpdesk for the definition of Consortium Agreement.

the generated assets of the project, which, eventually, will help the determination of access rights, ownership issues and IPR.

3.2.2 Foreground identification

A core process of the Ageing@Work IP management is the project assets' identification with a view to creating a concrete mapping of the projects' assets and enhancing the Ageing@Work IP portfolio. Therefore, all IP valuable assets within the project must be identified, listed, named, described and analysed in a systematic way.

3.2.3 Results' ownership

Partners were asked (through the Ageing@Work IPR Matrix – See Section 4) to elaborate further on the provisions of the CA with regards to results' ownership. Special attention must be paid on handling joint ownership issues. One option would be to link the main assets of the project with the tasks within which they were developed, so that contributing partners of each asset can be preliminarily easily identified.

3.2.4 Protection of results

Effective exploitation of the innovative concepts and assets developed under the framework of Ageing@Work depends on the protection of the project's results. In particular, the project's results must adequately be protected if²⁴:

- The project's results can reasonably be expected to be commercially exploited and;
- Protecting them is possible, reasonable and justified (given the circumstances).

In this respect, when considering IP protection Ageing@Work partners must consider their own interests along with the interests of the whole consortium. Project partners must safeguard the identified exploitable Ageing@Work results with adequate protection schemes, which will offer a decent protection period within a suitable geographical territory. The table that follows, illustrates the different protection instruments that can be applied to a variety of subjects.

Table 3. Protection Instruments of Results

Subject Matter	Patent	Utility Model	Copyright	Trade Mark	Confidential Information
Invention	X	X			X
Software	X*	X	X		X
Scientific Article			X		
Technology Design			X	X	
Name of Technology				X	
Know How	X	X			X
Website			X	X	X

²⁴ See https://ec.europa.eu/easme/sites/easme-site/files/ip_in_h2020_european_ipr_helpdeskmd09112017.pdf.

*Software patentability is still a debated issue given its exclusion as subject matter as by **Article 52(2)(c) and (3) of the European Patent Convention (EPC)**. Source: [IPR Helpdesk](#).

IP protection constitutes a tool to create value through the licensing, sale or commercialization of IP in the form of products and services. Moreover, its utilization is vital for a prospective commercial or industrial exploitation as it can contribute to support the branding of products and services both to customers and investors. It should be noted that the IP protection of an asset is not always mandatory.

3.2.5 Exploitation of results

The identified exploitable results and assets of Ageing@Work will be effectively exploited for commercial or any other relevant use as foreseen within the Ageing@Work GA²⁵. In particular, the Ageing@Work consortium will seek exploitation opportunities of the project's results in (i) further research activities, (ii) developing, creating or marketing a product or process, (iii) creating and providing a service, (iv) using them in standardisation activities.

In parallel to the successive phases of IP identification, determinisation of claims for ownership and exploitation as well as the definition of IP protection measures, further actions will run, including:

- Outlining of potential exploitation routes anticipated for each of Ageing@Work's assets beyond the end of the project.
- Market analysis and business modelling using the Business Model Canvas and its underlying methodology and aiming at producing a set of commercially viable and sustainable business models for rolling out the commercially relevant assets of the project.
- Validation and improvement of the business models, while also establishing relationships that may result in early-stage adoption of Ageing@Work's commercially exploitable results.

3.2.6 Dissemination of results

Ageing@Work partners are set to select the appropriate means for dissemination of project results (e.g. scientific publications, publication on web sites, conferences, etc.), according to the conditions set forth in the CA²⁶ and in other specific confidentiality agreements that might arise in order to maintain confidentiality during and after the end of the project. All partners should be aware that they first ensure the protection of a project's exploitable result and then proceed to dissemination actions of this or any other underlying result.

When assets are disseminated by means of publications, they will be deposited either with green open access (i.e. the author, or a representative, archives the published article or the final peer-reviewed manuscript in an online repository before, at the same time as, or after publication), or with gold open access (an article is immediately published in open access mode and the payment of publication costs is shifted away from subscribing readers), according to the ["Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020"](#).

²⁵ See Article 28.1 of the Ageing@Work Grant Agreement.

²⁶ See Section 8.4 of the Ageing@Work Consortium Agreement.

3.3 Post Project Stage

At the project's conclusion, the updated version of the Exploitation and Sustainability Plan will be submitted, outlining the use that Ageing@Work consortium intends to make of its exploitable results and the related plans and time frame for their exploitation. The Plan will describe the further activities that need to be implemented in order to ensure the use and sustainability of Ageing@Work results. In addition, it will include the final findings concerning IP issues, as well as the final update of the IPR Matrix (See Section 4), detailing the intellectual property rights applied and registered. This deliverable, therefore, will envisage the final strategy for exploitation, management of intellectual property rights and sustainability after project end, including also the concrete chosen commercialisation streams.

3.4 Role of the Exploitation Manager

The Exploitation Manager (EM) is responsible for defining the project's Exploitation and Sustainability Plan, preparing the respective reports and ensuring that innovative ideas which arise during the project will be thoroughly examined and assessed for potential exploitation, while at the same time all background and foreground intellectual property of the project is managed. To this end, the EM will be in close communication with the Project Coordinator and the Steering Committee to ensure continuous feedback from escalating project activities from the start until the project completion.

The Exploitation Manager and the Management Board will be responsible for the organisation and management issues of the Ageing@Work IPR strategy implementation. With that said, it is considered good practice for a partner to inform and consult the EM and the Management Board accordingly before deciding whether to protect the results stemming from its underlying activities or not – particularly if the partner is considering a potential joint IP scheme.

Finally, throughout the project the EM also assumes a mediation role in case of IP conflicts (see Section 3.6), monitors project activities and feeds the development of the subsequent versions of this report in the context of Ageing@Work.

3.5 Knowledge Management of the Project

The management of the IP constitutes an integral part of the overall Ageing@Work project management structure and thus it is important to establish a permanent IP monitoring scheme during the project. In this respect, an efficient IPR management methodology should define, from the early stages of the project, the procedures under which newly generated/identified results will be handled within the lifespan of Ageing@Work.

Efficient management of IP in Ageing@Work will be achieved through adopting a process able to identify IP results as well as to determine their adequate handling and protection. In this respect, it is essential to establish mechanisms that will guarantee that IP information is reliable and timely captured. Should WP Leaders identify a new asset that will be generated under their respective WP activities, the Exploitation Manager must be informed accordingly.

The Ageing@Work EM and the Management Board constitute the parties that will handle the screening and the managing of any newly identified assets and their corresponding IP issues that arise during the project's lifespan. The EM will direct the consortium partners in order to commonly

establish the most adequate and efficient IPR strategy based on the nature of the newly identified asset and the purposes of the Ageing@Work consortium concerning the exploitation of this asset.

To facilitate this process, the Ageing@Work IPR management strategy foresees creating and updating a living IPR Matrix (See section 4) to be revised and extended with new pieces of project results as the project's implementation advances.

3.6 IP Conflicts

In order to proactively avoid IP conflicts, project partners will be well-informed about IP rules and guided through the exploitation process not only via the IPR Matrix but also through the help of the Exploitation Manager. In this respect, project partners will identify their IPR assets, formulate their ownership and exploitation claims and if deemed necessary, transfer any relevant results to Ageing@Work's exploitable results according to the principle rights and obligations defined in the Consortium Agreement of Ageing@Work (Section 8).

The Exploitation Manager will provide assistance for the following indicative (and not exclusive) issues:

- Is there a possible misunderstanding about the definition of the exploitable result and therefore of the object of claims?
- Are there exploitation claims that should be further specified so that the partners can check the compatibility of their claims?
- Are the foreseen exploitation claims compatible with the ownership claims of the partners (related issue of access rights)?
- Are there any confidentiality issues e.g. on new knowledge of strategic importance for a partner and consequently the need for a confidential agreement?
- Are there any possible IP conflicts between the partners, both related to ownership and the related need for access rights and to exploitation claims?

In terms of IP conflict, the Exploitation Manager will encourage conflicting parties to get in contact and proactively find solutions, making written agreements whenever necessary. In case no agreement will be achieved, internal mediation process will be kicked off following the provisions of section 11.8 of the Ageing@Work Consortium Agreement.

4. IPR Matrix Methodology

The Ageing@Work IPR management approach foresees the utilisation of an IPR Matrix in order to define the main IPR issues concerning the Ageing@Work Innovation and IPR Management Strategy. This approach will support all project partners in identifying and managing the background, foreground knowledge and exploitable results of the project, and also of potential co-innovators, in order to have a full overview about IP protection and necessary agreements to enable successful exploitation of the project's offerings.

The IPR Matrix methodology is comprised of 4 distinct but interconnected steps, as follows:

- Step 1: Identification of the background IP and definition of access rights among partners within the project.
- Step 2: Identification of the assets and results, which constitute the foreground IP of the project and are foreseen to be generated under the Ageing@Work activities.
- Step 3: Identification of the project's exploitable results/assets (as defined at this early stage of the project) and the corresponding interest for their further commercialisation along with the contributing partners to each result/asset.
- Step 4: Definition of a preliminary framework of IPR protection for the defined Ageing@Work assets, which will enhance their further exploitation and commercialisation.

At this stage of the project, the objective is to define the main assets and results on one hand and identify, to the extent possible, the background and foreground IPs as well as the exploitable results of the project along with their corresponding access rights on the other hand. Under this framework, the structure of the IPR Matrix that will be used throughout the project is summarised below.

Table 4. Structure of the IPR Matrix

Background (BG)	Foreground (FG)	Exploitable results (ER)
<ul style="list-style-type: none"> • BG# • Partner's Background • Contributing Partner • Short Description of BG • Type of Protection • Conditions to Use within Ageing@Work • Conditions to use outside Ageing@Work • Interest in further exploitation through Ageing@Work results 	<ul style="list-style-type: none"> • FG# • Project Result • Related WP • Contributing Partners • Short Description of FG • Related BG# • Type of Protection • Conditions to Use within Ageing@Work • Interest in Further Commercialisation of Project Results • Conditions to Use after the end of the Project 	<ul style="list-style-type: none"> • ER# • Exploitable result • Main partner • Further contributing partner(s) • Related FG# • Related BG# (BG owner) • Proposition for the ER-owner • Short description of the ER • Relevance for IP Protection • Exploitation pathways

4.1 Identification of Background IP

In the first part of the IPR Matrix, the background IP that will be used during the project's implementation shall be identified, as illustrated in the following table.

Table 5. IPR Matrix Background

[illegible]

In the 2nd column of this part of the IPR Matrix, the project background assets are listed. In the 3rd column, the name of the partner who owns this background is indicated. For each identified background required for the creation of the result, a specific background number per partner shall be assigned. In column 4, the corresponding background number shall be indicated while column 5 should include a short description of the background. In column 6, partners shall indicate relevant IP protection types for the background in terms of patents, copyright, etc. In the 7th column, the conditions to use the background within the project (e.g. free to use or subject to charges, etc.) shall be indicated by each partner, whether there are any restrictions to use the background or not. In the 8th column, the background's condition to use outside Ageing@Work is indicated while in the last column, partners shall mention if they have any interest in exploitation/ commercialisation of the relevant background through the project results.

In the second part of the IPR Matrix, the foreground IP of the project is registered, as presented in the following table.

Table 6. IPR Matrix Foreground

[illegible]

In the first four columns, the Ageing@Work results to be developed, along with the corresponding WP are listed. In the 5th column, the main partner responsible for the foreground shall be indicated. In the 6th column, the further contributing partners for the foreground knowledge shall be indicated as well. In the 7th column, the related background number is attached to the underlying FG. In the 8th column, a short text describing the identified FG shall be included by the responsible project partner or potential co-innovator. In the 9th column, an FG number shall be attached to each result per each contributing partner. In the 10th column, partners shall indicate relevant IP protection type for the FG, in terms of patents, copyright, etc. In the next column, the conditions to use the FG within Ageing@Work (e.g. free to use or subject to charges, etc.) shall be indicated by each partner whether there are any restrictions to use the FG or not. In the 12th column, the project partners shall describe if they have an interest in commercialisation of the project result. Finally, in the last column, the conditions (e.g. free to use, license fee, etc.) to use after the end of the project shall be indicated by the project partners.

Based on the identified foreground IP, the Ageing@Work consortium defined the exploitable assets along with the underlying IPR management procedures, such as protection, definition of access rights and exploitation pathways.

At this step, the third part of the IPR Matrix was elaborated, which defined the Exploitable Results (ER), indicating also the main contributors for these results. The main aim of this part of the IPR Matrix is:

- to **identify IP ownership and exploitation claims**, as well as pro-actively indicate possible conflicts for each exploitable result; and
- to **support decisions on issues pertaining to IP protection**, in order to timely make the needed steps in this regard, including any potential IP agreements (e.g. for joint ownership, providing access rights or even an NDA for confidentiality).

Table 7. IPR Matrix Exploitable results

[illegible]

- **M: Making** a product and selling it.
- **U: Using** the project result internally for further development, for instance:
 - to develop something else for sale; or
 - for R&D departments (public or private) to use the results in new research projects.
- **L: Licensing** the project result to third parties.
- **S: Providing a Service**, such as consultancy, etc.
- **O: Others**

The responsible partner for the ER shall choose which exploitation paths are appropriate in consultation with the contributing partners, the Project Coordinator and the Exploitation Manager. Finally, in the last column, the responsible partner shall indicate which exploitation claim would be the most promising.

5. Progress over the first 12 months

During the first year of the Ageing@Work, several actions have been made towards the implementation of the Exploitation and Sustainability Plan. Initially, the Innovation and IPR Management Strategy was defined, shedding light on the key terms and procedures pertaining to the management and protection of intellectual property and laying down the main components of the relevant methodology (IPR Matrix methodology).

As a next step, the IPR Matrix Methodology was implemented, leading to the preliminary identification of the background and foreground knowledge of the project partners, along with the initial definition of the project's main assets that are depicted in the following table.

Table 8. The Ageing@Work's main assets

Title	Brief description	Main partner leading the creation of the asset
Ageing@Work platform	The Ageing@Work platform integrating and providing access to the project's models and tools for creating adaptive smart working and living environments that favour the active and healthy ageing of the older workers.	UPM
Virtual User Models	Dynamic and flexible Virtual Worker Models tailored to the ageing workers, fuelled by an unobtrusive monitoring framework and underpinned by advanced AI-driven computational algorithms.	CERTH
	Virtual Workplace Models based on novel and validated hierarchical models of the ageing workers' workplace, focusing on optimizing ergonomics and work processes of indoors and outdoors occupations.	UPAT
Work co-design tools	A personalized work ergonomics design tool offering suggestions for participatory workplace design shaped to the specific needs of the older worker based on ergonomics simulation.	MYSPPHERA
	A participatory work management tool facilitating the co-design and planning of the work arrangements at both individual (by the older worker) as well as organizational level (by the workplace manager, the HR/OSH manager, etc.).	HIT
	An age-friendly management DSS for HR/OSH specialists, fuelled by advanced analytics, facilitating designing, monitoring and implementing of intervention programmes.	SAMSUNG

Workability enhancement tools	An AR-based telepresence tool which will enable older workers to collaborate with their colleagues across distances, offering functionalities from simple teleconferences to remote problem solving	CERTH
	VR- and AR-based lifelong training tools, which will empower older workers with the knowledge and support required to easily learning new tasks and processes as they emerge from the evolution of technological advances in their work.	UPAT
	A knowledge sharing tool underpinned by gamification that will enable and stimulate workers to collect and exchange knowledge, ideas and good practices relevant to their work, facilitating their engagement in the work process at hand.	UPAT
	A situation awareness enhancement tool, empowering workers to gain a better understanding of their status, make better decisions and improve their performance in dynamic intricate environments, either on-site or in remote locations.	CERTH
Ambient Virtual Coach	An Ambient Virtual Coach in the form of a mirroring avatar that will discreetly help older workers to balance their professional and personal goals as well as lead a healthy and active lifestyle both at work and at home.	CERTH
Worker monitoring tools	Worker monitoring tools including the working tracking framework and the worker activity and behaviour monitoring.	KUL
Research data and scientific publications	Research data and scientific publications stemming from the research, development, pilot testing and evaluation activities offering meaningful utility to stakeholders from the research and academic community.	Main authors of the publications
Business Model(s) and Plan	Ageing@Work Business Model(s) and Plan demonstrating the viability of the business prospects of the Ageing@Work solutions.	Q-PLAN
Ageing@Work brand and community	The Ageing@Work brand and community created and enhanced throughout the duration of the project facilitating the dissemination and commercial exploitation of the project's assets after its completion.	All partners

After the definition of the project's main assets, the focus was placed on defining the partners' initial plans for the post-project exploitation of each asset. In particular, the consortium members elaborated specific exploitation plans per each identified asset, including the target groups that stand to benefit from their use, as well as individual exploitation plans for each project partner.

6. Conclusions and next steps

This initial version of the Ageing@Work Exploitation and Sustainability Plan has described the strategy and methodology employed in this respect within the framework of Ageing@Work. A dedicated tool, namely the IPR Matrix, has been elaborated in order to facilitate the identification and management of Ageing@Work's assets by project partners under the supervision of the Exploitation Manager (Q-PLAN) throughout the project.

Accordingly, the Exploitation and Sustainability Plan of Ageing@Work will be updated to reflect the final project results along with their protection, ownership, access rights with the support of all partners. The final version of the "Exploitation and Sustainability Plan" will provide a more accurate outline of the main exploitable assets of the project, the main target groups of external stakeholders (e.g. prospective end-customers) and the potential benefits they stand to gain from Ageing@Work's outcomes, the exploitation plans per asset, per partner and per groups of partners. Alongside, the updated report will encompass the measures that have been taken to protect the partnerships' IP as well as the respective IPR agreements, fostering the successful post-project exploitation and sustainability of the project's assets.

In parallel, the "Ageing@Work Business Model and Plan" will be elaborated towards the end of the project, specifying the roadmap for the market rollout of the Ageing@Work solution, which will facilitate the successful post-project exploitation of the project's main assets.

The Exploitation Manager will keep the plan updated and monitor project activities as they evolve so as to timely become aware of any potential conflicts of interest and to facilitate their resolution before the end of the project, as well as to feed the development of the updated version of this report in the context of Ageing@Work.