Impact-Aware Manipulation by Dexterous Robot Control and Learning in Dynamic Semi-Structured Logistic Environments

Dissemination Plan

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Control sheet

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Reviewer 2		

Legal disclaimer

TABLE OF CONTENTS

ABBREVIATIONS

s	Definition
DIH	Digital Innovation Hub
EC	European Commission
ERF	European Robotics Forum
PU	Public
RODIN	RObotics Digital Innovation Network
WP	Work Package

EXECUTIVE SUMMARY

Dissemination and communication are a concerted effort and will require the involvement of all partners. To properly execute and monitor the dissemination activities, a detailed Dissemination Plan will be prepared at the beginning of the project (D7.1). The purpose of the dissemination plan is to define in detail:

- The key stakeholders;
- Developing a key message for external communication;
- The channels which are most suited to communicate the messages to the key stakeholders;
- A planning of the dissemination activities;
- Allocation of human and financial resources.

It must be emphasized that dissemination is a continuous process and not a one-time effort when the project ends.

This document presents a reference description of the Dissemination Strategy for I.AM. With this aim, the contents of the deliverable have been divided into the following sections:

Section 2. Key stakeholders and message: An overview of the key stakeholders for I.AM. and the key message that will be used throughout the project.

Section 3. Dissemination Plan: This section describes the initial dissemination and communication plan, describing per target audience the intended dissemination instruments and initial plans.

Section 4. Communication Activities and Resources: This section also features the visual identity of the project, as well as the dissemination materials that have been developed for the dissemination and promotion activities.

1. INTRODUCTION

1.1. I.AM. project background

Europe is leading the market of torque-controlled robots. These robots can withstand physical interaction with the environment, including impacts, while providing accurate sensing and actuation capabilities. I.AM. leverages this technology and strengthens European leadership by endowing robots to exploit intentional impacts for manipulation. I.AM. focuses on impact aware manipulation in logistics, a new area of application for robotics which will grow exponentially in the coming years, due to socio-economical drivers such as booming of e-commerce and scarcity of labour.
I.AM. relies on four scientific and technological research lines that will lead to breakthroughs in modelling, sensing, learning and control of fast impacts:

1. I.Model offers experimentally validated accurate impact models, embedded in a highly realistic simulator to predict post-impact robot states based on pre-impact conditions;
2. I.Learn provides advances in planning and learning for generating desired control parameters based on models of uncertainties inherent to impacts;
3. I.Sense develops an impact-aware sensing technology to robustly assess velocity, force, and robot contact state in proximity of impact times, allowing to distinguish between expected and unexpected events;
4. I.Control generates a framework that, in conjunction with the realistic models, advanced planning, and sensing components, allows for robust execution of dynamic manipulation tasks.

This integrated paradigm, I.AM., brings robots to an unprecedented level of manipulation abilities. By incorporating this new technology in existing robots, I.AM. enables shorter cycle time (10%) for applications requiring dynamic manipulation in logistics. I.AM. will speed up the take-up and deployment in this domain by validating its progress in three realistic scenarios: a bin-to-belt application demonstrating object tossing, a bin-to-bin application object fast boxing, and a case depalletizing scenario demonstrating object grabbing.

1.2. Dissemination plan background

According to the DoA, I.AM. will provide a dissemination plan according to the following:
Dissemination and communication are a concerted effort and will require the involvement of all partners. To properly execute and monitor the dissemination activities, a detailed Dissemination Plan will be prepared at the beginning of the project (D7.1). The purpose of the dissemination plan is to define in detail:

- The key stakeholders;
- Developing a key message for external communication;
- The channels which are most suited to communicate the messages to the key stakeholders;

- A planning of the dissemination activities;
- Allocation of human and financial resources.

It must be emphasized that dissemination is a continuous process and not a one-time effort when the project ends.

1.3. Purpose of the deliverable

This deliverable D7.1 Dissemination Plan, aims at providing an overview op planned activities on dissemination, such as workshops, events, online presence and press releases and provides an overview of the dissemination actions that the consortium of I.AM. aims to execute throughout the duration of the project.

This document presents a reference description of the Dissemination Strategy of the I.AM. results. With this aim, the contents of the deliverable have been divided into the following sections:

Section 2. Key stakeholders and message: An overview of the key stakeholders for I.AM. and the key message that will be used throughout the project.

Section 3. Dissemination Plan: This section describes the initial dissemination and communication plan, describing per target audience the intended dissemination instruments and initial plans.

Section 4. Communication Activities and Resources: This section also features the visual identity of the project, as well as the dissemination materials that have been developed for the dissemination and promotion activities.

1.4. Intended audience

The dissemination level of D7.1 is 'public' (PU) – meant for members of the Consortium (including Commission Services) and the general public. This document is also intended to serve as an internal guideline and plan for the entire I.AM. Consortium and provide the consortium's information on upcoming and planned dissemination activities.

2. KEY STAKEHOLDERS AND MESSAGE

The first step in the dissemination plan is to identify **TO WHOM**, i.e. The key stakeholders and **WHAT**, i.e., the message or messages to be disseminated.

2.1. Key stakeholders

Already during proposal writing, the consortium has considered the key stakeholders of the I.AM. project:

- Research community
- Logistics industry
- Public policy makers

Additionally, during the first months of the project, stakeholders in the following application domains have been identified by the consortium as potentially having interest in the results of the project:

- Manufacturing (packaging application),
- Construction (bricklaying robots),
- Healthcare (care robots), and
- Domestic (service robots) sectors.

The dissemination plan will focus mainly on the key stakeholders, since the project is focused on logistics industry as the main application domain. However, using digital channels and scientific dissemination, also the stakeholders in the four domains above will be reached.

These domains are related with different more general technology and research fields. I.AM. will focus mainly on these more specific technology and research fields, applied in the logistics and robotics domain:

- Artificial Intelligence and Machine Learning: the project's aim deploying, adapting and extending existing approaches to extracting impact models from robot and second data streams that can be of interest to AI and machine learning communities.
- Knowledge modelling and data management: the challenges of integrating data from different sources, building suitable ontologies and understanding the scenarios
- Dynamics and control: the project will validate and extend existing contact and friction models to accurately simulate dynamic interaction between objects, robotics, and the environment. There models will then be used in impact-aware learning, planning, sensing, and control strategies, striving for the difficult combination of mathematical rigor and practical
- Robotics: implementation the project will impact the field of robotics, targeting robot-object-environment dynamic interaction for manipulation. Mechatronic robot design will also be affected, providing requirements of future generation robots designed for impact tasks.

2.2. Key messages

For each of the key stakeholders, key messages and benefits have been set up (see Table 1).

Table 1: Main target groups, key messages, and benefits for dissemination

Key stakeholders	**Key messages and benefits**
Research community	This community will be approached via the professional network of the consortium members. The scientific community includes students involved in educational activities in the fields of robotics and control, in particular European PhD students. The objective is to disseminate the technological and scientific results of the project. Feedback from opinion leaders in robotic and instrumentation and control will be used. Feedback from the research community will have an immediate impact as it will be used during the demonstration and furthermore during the commercialization of the platform.
Logistics industry	The logistics industry stakeholders will be approached. Contacts to the logistics industry already exist in the consortium. The need for this target group is to evaluate the potential of these new features and to integrate them within the robots. Communication with other industrial partners, suppliers, and potential buyers will be fostered by the participation of the I.AM. consortium to relevant industrial workshops and fairs, such as the European Robotics Forum and Automatica. The objective is to communicate the project results and establish channels for the exploitation plan.
Public policy makers	Policy makers will be approached via the network of the consortium members. The information about the project results will make them aware of the new developments in the field of robotics, and their societal and economic benefits for their own country.

Taking this overall target audience into account, I.AM. has defined the following overall key message (which was already disseminated during ERF 2020 in Malaga):

Goal of I.AM. project

Due to the booming of e-commerce combined with labour shortage, providers of process automation for logistics are seeking for new technologies to reduce the cycle time of take-and-put operations using robots.

I.AM. proposes to tackle the challenge of reducing the cycle time in take-and-put operations in logistics by exploiting robot-objects collisions.

I.AM. objectives:

- Validated impact models
- Learning and planning framework for impact motions
- Aim-aware collision pipeline
- Control framework for tasks with intentional impacts
- Impact-Aware Manipulation framework
  validated on socio-economic relevant logistics scenarios

Underlying and supporting this message are the following supporting key messages:

- I.AM. is granted by the EC under the H2020 programme.
- The I.AM. consortium is an integral effort by European companies, research institutions and universities and experts in different fields of technology and in the domain of logistics and robotics.
- The expected results will be the advancement in technology and performance in the key robotics and logistics industry by employing the model, learn, sense and control approach for improving impact aware robotics.
- Certain milestones reached during the development of the project, or some deliverables produced, will be made publicly available.
- Participation of the project's members in conferences or other public events, and publications describing the project in different media will enhance dissemination to domain experts, general public and industry.
- Novel scientific ideas, methods, and software libraries to the relevant scientific fields, will preferably by published using open access and open source channels.
- Data from WP1 will be made publicly available through ORDP to provide a basis for new technology development and enhancement of the impact aware manipulation in robotics.

2.3. Restricted Access Information

It is also important defining which messages should not be disseminated, since not all documents and knowledge compiled or generated during the project will be available for the

public. Special attention must be given to restrict any dissemination of material classified as confidential. This will be the case for any document containing personal data, contents subject to intellectual property rights restrictions, or those that describe key technologies developed and tested by the consortium during the development of the tests that could compromise the secrecy that could be necessary to obtain patents and avoid potential competitors to gain advantage.

3. DISSEMINATION PLAN

The consortium is planning to offer a very wide audience of the project. There is a strong will by all the partners to go beyond scientific publication and achieving complete demonstration scenarios to be released for press, industry and public audience. Dissemination and exploitation of project results will be effective through different canals, which will be described in the sub sections below. Exploitation activities will have the goal to promote market awareness, understanding, acceptance, and investment in I.AM. results, whenever possible. This dissemination plan will provide the **HOW** we intend to disseminate the I.AM. results and progress.
Each paragraph describes specific to the target audience the dissemination activities, regarding industry and business communities (Section 3.1), other programs and policy makers (Section 3.2), academic and research communities (Section 3.3), end users (Section 3.4). In Section 3.5, an overview of common activities where academic, industry and policy makers are jointly targeted is given. And finally the dissemination to General public (Section 3.6)

3.1. Dissemination to industry and business communities

Several trade fairs and conferences include brokerage events and/or investment forums where the consortium will contact potential investors such as business angels and/or private companies that might be interested on investing in I.AM. due to synergies with their own activities or strategy plans. These interactions will provide information to validate the value proposition of I.AM. as well as the Business Model. This task will be led by VANDERLANDE.
Industrial partners FRANKA EMIKA, ALGORYX, SMART ROBOTICS will disseminate the results of I.AM. in the industrial context, exploiting their connection with robotic solution providers and manufactures.
VANDERLANDE will disseminate I.AM. results through participation in logistics fairs.

Table 2 gives an overview of the planned activities with a focus on industrial dissemination.

Table 2: Industry focussed dissemination activities

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium / event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Press release	Logis-tiek.nl	1 March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	Vander-lande Press Release	tbd	online website Vander-lande	×	×	×	×	×	×	×	***lead***	
Non-scientific and non-peer-	Mecha-tronica &	once	online / paper	***lead***					×			

reviewed publication (trade magazine)	Machine-bouw		version (NL)									
Exhibition	Auto-matica	2021 and 2023	Mün-chen	×			×			×	×	
Exhibition	Hannover Messe	2021 and 2023	Han-nover	×			×			×	×	
Participation at Trade Fair	LogiMAT	2021 and 2023	Stutt-gart						×	×	***lead***	
Participation at Trade Fair	Logistica	Nov. 2021	Utrecht (NL)						***lead***			
Participation at Trade Fair	Indu-mation	Feb. 2021	Kortrijk (BE)						***lead***			
Participation at Trade Fair	Scanpack	Oct. 2021	Göten-borg (SE)						***lead***			
Participation at Trade Fair	Empack	March. 2021	Den Bosch (NL)						***lead***			

3.2. Dissemination to other programs & policy makers

According to the DIH catalogue [1] there is currently only one DIH related to logistics. To explore additional avenues for exploitation beyond the capabilities within the already strong I.AM. consortium, we have specifically targeted in our dissemination strategy to connect with the existing DIH in logistics as well as the RObotics Digital Innovation Network (RODIN [2]), which is assessing and coordinating the activities of all DIHs in Europe. In particular, we will prepare a joint workshop, in order to establish a collaboration for, e.g., identify impact aware challenges in other domains where other DIHs could help transferring to local companies I.AM. results. A RODIN representative has been already contacted (see end-user advisory board composition).
The consortium is actively participating in euRobotics, providing input into the SPARC multi-annual roadmap and disseminating R&D result at the European Robotic Forum.

Table 3 gives an overview of the planned activities with a focus on industrial dissemination:

Table 3: Activities focused on Cross collaboration with other programs and policy makers

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium / event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Participation in activities organized jointly with	euRobot-ics: input SPARC roadmaps	yearly	tbd.	×	×	×	×	×	×	×	×	

other H2020 projects												
Participation in activities organized jointly with other H2020 projects	Robotics Digital Innovation Network (RODIN) --> via EAB (TNO)	yearly	tbd.	×	×	×	×	×	×	×	***lead***	
Participation in activities organized jointly with other H2020 projects	Holland-Robotics - roundtable / visit	end of project	tbd.	×					×		***lead***	

3.3. Dissemination to academia and research community

I.AM. aims at the creation of scientific awareness on project achievements via scientific publications, workshops at conferences and participation in organizing training schools. The dissemination is both a collective activity managed by the entire consortium and an individual set of actions handled by each single partner on a local level. A central list of scientific publications will be disseminated by academic partners through conferences participation (for assessing the general impression of the scientific community to the preliminary results of the project progresses) and submission of scientific papers to top journals of the different.
The project will co-organize a training school (e.g., making impact aware manipulation a possible topic for DISC summer school in the Netherlands) in order to disseminate the I.AM. results in a consolidated and suitable form. The school shall bring together both early stage as well as experienced research from within the I.AM. consortium with those from a wider European audience.

Regarding scientific dissemination, the main dissemination activities will be:

- **I.AM. impact data repository**: A common repository will be developed for robot impact data collected in I.AM.. This is meant to facilitate visibility of the results and trigger the interest of the international robotic community on modelling impact effects for robot control and validate these model my means of comparing their accuracy against experimental results.
- **Special sessions/one-day workshops at top international conferences**. In addition, special sessions/workshops will be organized to ensure presence and visibility at major scientific meetings. We intend also to organize some of these workshops together with other related running EU projects. The sessions/workshops will be organized in conjunction with international conference such as IEEE ICRA, IEEE CDC, IEEE IROS or RSS, etc.
- **Organization of I.AM. Workshops:** we will organize (i) a mid-term I.AM. workshop and (ii) a larger international I.AM. conference, combining presentations of the project partners.
- **Conference Presentations and publications**: The results of I.AM. will also be presented at the major conferences of the related disciplines such as: IEEE International Conference on Robotics and Automation (ICRA), IEEE International Conference on Robots and Intelligent Systems (IROS), IEEE International Conference on Decision and Control (CDC), The International Symposium of Robotics Research (ISRR), Robotics: Science and Systems (RSS).

3.3.1. External Scientific Advisory Board (ESAB)

In order to guarantee quality of the scientific work in I.AM., but also to disseminate the I.AM. results and work, an External Science Advisory Board (ESAB) will be composed of three internationally renowned scientists outside the consortium:

- Prof. Aaron Ames, California Institute of Technology, USA; worldwide expert in control of nonlinear and hybrid systems, robotic locomotion, foundational theory and experimental realization on robotic systems
- Dr. Vincent Acary, INRIA Grenoble Rhône-Alpes, France; worldwide expert in modelling, mathematical analysis, simulation of nonsmooth dynamical systems;
- Prof. Oussama Khatib, Director of Robotics Laboratory, Department of Computer Science, Stanford University; worldwide expert in robotics and in-contact robotics manipulation.

Members of the External Scientific Advisory Board:

- may advise on the scientific outcome of the project and its relevance to the scientific community,
- may advise and/or participate in project dissemination and communication tasks

Table 4 gives an overview of the planned activities with a focus on academia and research community dissemination:

Table 4: Activities focused on Academic and research community

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium / event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Organisation of a Workshop	ESAB	Combi-ned with ICRA work-shops	see ICRA	***lead***	×	×	×					- California Institute of Technology - INRIA - Stanford University
Training	DISC summer school	not earlier than 2023	tbd.	***lead***	×	×	×					
Open impact dataset	I.AM. open dataset repository	Sept-ember 2020	Online	***lead***	×	×	×	×	×	×	×	
Participation to a Conference	IROS	tbd	tbd.	×	×	×	***lead***					
Participation to a Conference	TU/e Robotics Symposiu m	2022 and/or 2023	Eindhov en	***lead***					×		×	

Participation to a Conference	Sim2Real	tbd	tbd.					***lead***				

3.4. Dissemination to end users

Awareness of the project and the outcome will be high among the potential end users through collaboration with FRANKA EMIKA, ALGORYX, SMART ROBOTICS and VANDERLANDE. Specific activities will be conducted with the end-user advisory board (see 3.4.1), led by Vanderlande.

3.4.1. End-user Advisory Board (EAB)

As a concrete means to identifying the requirements needed to bring I.AM. results to the market (reaching TRL9) and explore the possibility of bringing the results in other application areas (e.g., forestry, construction, maritime, as well as the four priority areas of EU), the consortium will set up a panel of experts drawn both from the industrial partners of I.AM. as well as exploitation experts drawn from outside the consortium. This panel is the end-users advisory board (EAB) and is currently composed by the following members:

- Managing Director, Smart Robotics
- CEO, Algoryx
- CEO, Franka Emika
- Product Manager Robotics, Vanderlande
- TNO, Netherlands; PI in the EU CSA RODIN (RObotics Digital Innovation Network)
- Sr. Specialist Engineer, Heerema Marine Contractors Nederland, the Netherlands
- CEO, PAL robotics S.L., Spain
- Head of Gripper Technology Piab AB, Sweden
- Head of R&D, Bollegraaf Recycling BV, The Netherlands

Members of the End-user Advisory Board:

- may complement the technical and user requirements and the architecture,
- may advise and/or participate in project dissemination and communication tasks, and
- will review the project's process and results and submit short reports during the project execution period, at specific project milestones.

The EAB will meet once a year. The first EAB will be organised and planned by Vanderlande at the location of Vanderlande in Veghel. The other sub sequential EAB meetings will be planned separately afterwards at possibly different locations.

Table 5 provides an overview of the activities planned with the EAB.

Table 5: End-user Advisory Board planning

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium/ event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Organisation of a Workshop	End user advisory board (EAB)	once a year	Veghel (1st year), other years location tbd.	x				x	x	x	*lead*	PAL Robotics TNO HMC Heerema Piab Bollegraaf

3.4.2. Exploitation Board (EB)

The Exploitation Board (EB) will be formed from four senior management officials (one from each industrial partner) and one from one research partner (very likely TU/e), to decide about the exploitation of the project results. It will meet at the milestone reviews and occasionally if special decisions are to be made. The exploitation board that will be settled will endeavour substantial efforts to have the generated innovation marketed, also considering the input of the End-Users Advisory Board (EAB)

Further exploitation efforts will not be detailed in this deliverable, since I.AM. has two explicit deliverables on this effort describing the roadmap and business cases for developing a torque-controlled robot arm for logistics in D7.2 (M47 – 30 November 2023), describing the roadmap towards concrete exploitations of I.AM. outcomes in developing a torque-controlled robot arm ("I.AM. Panda") for logistics applications, optimized for impact motions (e.g., optimal structural damping and impact resilient) and another roadmap and business cases for the introduction of I.AM. in logistics in D7.3 (M48 – 31 December 2023), describing the roadmap towards concrete exploitations of I.AM. outcomes.

3.5. Simultaneous dissemination to industry, academia and policy makers

Of course, there are also multiple occasions, where dissemination of I.AM. will take place that are targeted towards industry, academia and policy makers alike.
As mentioned earlier, especially ERF, but also ICRA is such an occasion, where all parties combined are attending.
I.AM. will therefore aim to hold its final event as a workshop at either ERF or ICRA in 2023 or early 2024, depending on the best timing and finalization of the project's results.
An overview of dissemination activities towards all targeted audiences is shown in Table 6, including the I.AM. final event to be planned at ERF or at ICRA (depending on availability).

Table 6: Industry, academic, end-user and policy maker focused activities

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium / event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Organisation of a Workshop	IEEE ICRA 2021	16-22 May 2021	Xi'an, (China)	***lead***	×	×	×	×	×	×	×	
Organisation of a Workshop	IEEE ICRA 2023 --> possible final event for I.AM.	29 May - 2 June 2023	London (UK)	***lead***	×	×	×	×	×	×	×	
Organisation of a Workshop	Vision & Robotics - workshop	2x (introduc tion and final results)	Veld-hoven	×					***lead***		***lead***	
Participation to a Conference	ERF 2020	3 - 5 March 2020	Malaga	***lead***	×	×	×	×	×	×	×	
Participation to a Conference	ERF 2021	23 - 25 March 2021	Rotter-dam	×	×	×	×	×	***lead***	×	***lead***	
Organisation of a Workshop	ERF 2023/2024 --> possible final event for I.AM.	end of project	tbd.	***lead***	×	×	×	×	×	×	×	

3.6. Dissemination to general public

Media and public at large are always interested in knowing the latest technological achievements. Public relations departments of the I.AM. partners will routinely inform the media when important milestones are achieved.

It is important that media and public at large know about I.AM. advances, in particular for promoting the idea that robotics technologies can really help in automate repetitive tasks that are not ergonomic or that put at risk the life and health of human workers.

I.AM. has set up a dedicated website to communicate the key message to the general public. The details of this website and social media channels is described in public deliverable D6.1 as well as the details of the software repository to which the open data set will be published.

Additionally, I.AM. consortium will communicate the project and its results through the use of social media channels, such as LinkedIn, YouTube and Twitter. Dedicated channels have already been established and are also described in deliverable D6.1.

Finally, I.AM. consortium will communicate the project through other press releases, such as magazine articles, online articles at general public platforms and newspapers. During the first months of the project already 11 press releases were published.

Table 7 provides an overview of the activities planned, press releases that are already published and other media that is already online with towards general public:

Table 7: Activities focused towards general public

				Partner(s) involved in dissemination instrument								
Main dissemination instrument	Medium / event	Planned date	Loca-tion	TU/e	EPFL	CNRS	TUM	Algoryx	Smart Robotics	Franka Emika	Vanderlande	External partners (involved in execution)
Website	RSI Website	Is online already	Online	×	×	×	***lead***	×	×	×	×	
Press release	TU/e website (Cursor)	2 March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	TU/e website	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	TWEAK-ERS.nl	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	ST040	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	MMB	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	Emerce	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	RTL	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	RTLZ	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	ED	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	AD	March 2020	online	***lead***	×	×	×	×	×	×	×	
Press release	Innovation Origins	March 2020	online	***lead***	×	×	×	×	×	×	×	
Social media	Twitter	Is online already	Online	***lead***	×	×	×	×	×	×	×	
Social media	LinkedIn	Is online already	Online	***lead***	×	×	×	×	×	×	×	
Social media	YouTube	Is online already	Online	***lead***	×	×	×	×	×	×	×	
Website	i.am. website	Is online already	Online	***lead***	×	×	×	×	×	×	×	

Communication Campaign (e.g. Radio, TV)	tbd	tbd	tbd.	×			×		×			
Video/Film	Video per WP scenario	once a year	online	***lead***	***lead***	***lead***	***lead***		***lead***		×	
Video/Film	Video for entire project	once a year	online	***lead***	***lead***	***lead***	***lead***	×	***lead***	×	×	
Other	Open days	once a year	TU/e Eind-hoven	***lead***					×	×	×	

4. DISSEMINATION RESOURCES

This section describes the human resources (who is coordinating the dissemination tasks within I.AM. together with the rest of the partners) and the specific dissemination resources, such as visual identity

4.1. Human resources

As defined in the I.AM. DoA, all partners involved in I.AM. are responsible to contribute to the dissemination activities.
To ensure this, the project has defined several roles for coordination of dissemination activities and assigned to WP6 and WP7 leads TU/e and Vanderlande. They will coordinate together with the other partners the activities described earlier.

4.1.1. Innovation Manager

As described in the DoA, Vanderlande is the leader of WP7. The main tasks of the Innovation Manager are:

- Identify dissemination events (fairs and workshops) of potentially interested large end-users (in logistics but not excluding other domains) and pro-active presentation of I.AM. results on those events;
- Monitoring of project results, IP management, and definition of suitable exploitation strategies;
- Direct communication and possible tight collaboration with stakeholders and members of the End-Users Advisory Board;
- Identification and organization of valorisation of I.AM project results.

The innovation manager will also be supported by project coordinator and project manager (both TUE) in the following dissemination and communication activities:

- Organization of national and international workshops on the topic of I.AM., eventually followed by special issues in International Journals;
- Regular communication using suitable media: website, press releases, YouTube videos, etc.
- To facilitate the logistics (travel and accommodation) and provide the necessary marketing material (flyers, brochures, posters, etc.).

4.1.2. Internet Coordinator

A representative from TU/e will be appointed as Internet Coordinator. The main tasks of the Internet Coordinator are:

- To maintain the project Website, updating its contents, publishing news and including documents and multimedia material.
- To maintain the quality of the contents and the consistency of the design with the project's identity standards.

- To monitor the status of the server, to ensure its optimal performance and solve any problems that may arise.
- To manage incoming messages from the Website users, addressing each one to the partner who could better reply to them.
- To create and manage accounts for the project in social networks, updating news and replying to messages from the users.
- To monitor the statistics of access to the Website.
- To keep the Dissemination Coordinator informed of any relevant information about the project's Internet resources and deliver periodical reports.

4.1.3. Scientific publications Coordinator

This role will be carried out by the scientific coordinator (and overall coordinator) of I.AM (TU/e).

The main functions of the Publications Coordinator are:

- To identify opportunities to publish articles about the project, and coordinate with the members of the project the production of contents to be published.
- To maintain the quality and of the contents and the consistency of the design with the project's identity standards.
- To verify that the contents to be published contain only public information and no confidential information is disclosed.
- To keep the Dissemination Coordinator informed of any relevant information about the project's publications and deliver periodical reports.

4.2. Dissemination Resources

The following electronic, non-electronic and printed dissemination activities have been developed:

- **Project visual identity and templates**, including a logo, a house style for project reports (both in LaTeX, as well as Word), presentations (both in LaTeX as well as PowerPoint), and posters (both in LaTeX as well as PowerPoint) as well as related templates and guidelines for all partners. These templates are all shared within the consortium on the I.AM. MS Teams project environment, under WP7 – 00.TEMPLATES
  The initial visual identity is shown in Annex 1 for reference as well.
- **A project leaflet**, presenting I.AM. and its objectives. A flyer provides a short summary of the project, combining a graphical design that should facilitate its identification and a text that provides the key ideas about the project. It can be translated to different languages, facilitating the distribution of each version depending on the target audience to which has to be delivered. The flyer may require changes along the project, in case that the message needs to be changed adding updated information or adapt the design to a new style. A first version was already provided for ERF 2020 in Malaga and will be updated with the current logo and visual identity for other events.
- **A project website**, providing the opportunity of quick, efficient and extensive dissemination of project outcomes, both for those directly involved in the project as well as other stakeholders (http://i-am-project.eu).

5. CONCLUSION

This document presents the internal guidelines that will be followed for the appropriate coordination of the dissemination and communication activities within the I.AM. project. This deliverable complements the information provided in D6.1 Website and repository, which already described the visual identity of the I.AM. project, and more in detail the public website and software repository.
The overall dissemination plan of the project described in this deliverable is aligned with the information already provided in the Description of Action for I.AM.

6. REFERENCES

[1] "DIH - Digital Innovation Hubs - Smart Specialisation Platform." https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool (accessed Jun. 29, 2020).

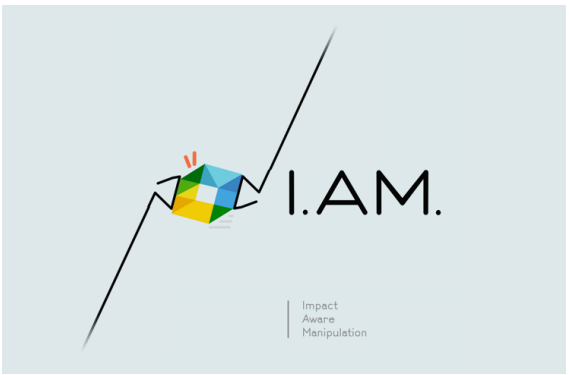
[2] "RODIN RObotics Digital Innovation Network." https://cordis.europa.eu/project/id/825263 (accessed Jun. 29, 2020).

ANNEX 1 - I.AM. - VISUAL IDENTITY

All templates are available on the I.AM. project repository under WP7 – TEMPLATES:

Logos:

Business card template:



Presentation template:

I.AM.

IMPACT-AWARE MANIPULATION BY DEXTEROUS ROBOT CONTROL AND LEARNING IN DYNAMIC SEMI-STRUCTURED LOGISTIC ENVIRONMENTS

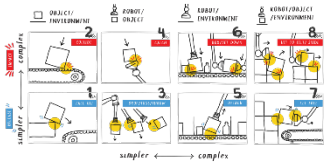
THE PROJECT AT A GLANCE

In **logistics**, innovative solutions for autonomous robot manipulation are demanded to increase productivity.

I.AM. aims to **make robots exploit collisions, instead of fearing them,** and make robots capable of performing dynamic contact tasks reliably, robustly, and autonomously.

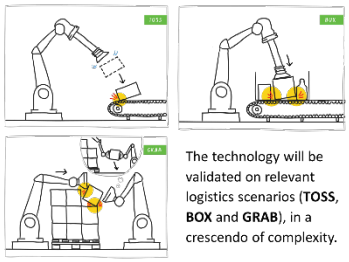
I.AM. will advance the current state of the art in robot manipulation and validate this new paradigm in the logistics domain, primarily targeting **cycle time reduction** in executing dynamic contact tasks.

Dynamic contact transitions are too fast to be reacted upon and **new anticipatory strategies are required** to predict the post-impact state of the robot and incorporate explicitly this prediction in the robot learning, sensing, and control strategies.



I.AM. TECHNOLOGY

1. **Validated impact models** enabling robots to predict the dynamic effect of collisions.
2. **A learning and planning framework** to automatically generate impact manipulation tasks to achieve user-specified objectives.
3. **An aim-aware collision monitoring framework** for estimating position, velocity, contact forces, and contact state during collisions.
4. **A control framework** capable of executing dexterous robot motions that include intentional impacts.
5. **An Impact-Aware Manipulation (I.AM.) framework** validated **on socio-economic relevant logistics scenarios.**



The technology will be validated on relevant logistics scenarios (**TOSS**, **BOX** and **GRAB**), in a crescendo of complexity.

IMPACT

1. ***LOGISTICS*** – Through dynamic handling, I.AM. aims to **speed-up the pick-and-place processes of the robots of over 10%.**
2. ***PUBLIC HEALTH*** – With increased automation of take-and-put processes that involves lifting of items and cases up to 15kg, I.AM. aims at **lowering the amount of injuries in the work force.**
3. ***EUROPEAN ROBOTICS*** – Draw the attention of several robotic manufacturers on the potentials of **developing an impact-aware manipulation technology for robots.**

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