Public dissemination materials

DELIVERABLE 7.3

Grant Agreement number: 723082

Project acronym: STREAM-0D

Project title: Simulation in Real Time for Manufacturing with Zero Defects

PROJECT COORDINATOR: INSTITUTO TECNOLÓGICO DE ARAGÓN

PARTNERS:

STAMTECH SRL

DAY ONE SRL

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LABORATORY FOR MANUFACTURING SYSTEMS AND AUTOMATION

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FERSA BEARINGS, SA

CENTER FOR TECHNOLOGY RESEARCH AND INNOVATION LTD

ECOLE CENTRALE DE NANTES

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1 Executive Summary

This document is the result of the activities in Work Package 7, *Dissemination, exploitation and IPR management*. It contains a list of all the dissemination and communication materials currently produced for the project, including an update on the activities that have been carried out from M12 to M24. The document consists of 3 sections:

Section 1 showcases a list of all dissemination and communication material that has been produced until now. This material has been divided in different categories such as 'Website', 'Social media', 'Offline material', 'Other tools' and 'Publications'. Items listed in section 1 sum up activities carried out during the first phase of the project (and reference to D7.1 and 7.2 is therefore provided), some other are original material produced during the second phase (M12-M24). Goals, achieved results and expected outcome for the future are provided.

Section 2 takes into account all the resources – such as associations, partners and organizations – that can be involved during the communication and dissemination activity of the project. The section will provide a glance on all the actions that have been carried out in order to spread the word around the project and its achievements as well as the ones aimed at involving stakeholders. A paragraph will also highlight the interaction with the tools made available by the EU Commission for dissemination purposes.

Section 3 describes the activities that have been planned for the future. This section is a programmatic overview of the future activities, and as such it is subject to changes, adjustments, and improvements during the actual execution of the activities. Therefore, this section has to be considered as a living document, which will be updated and revised, and also accounted for in the following reporting periods of the projects.

2 Section 1: Public dissemination materials and report on activities (M12-M24)

As defined in STREAM-0D Deliverable 7.2 "Marketing and dissemination plan", the project has several objectives to be pursued. Some are strictly related to the EU-funded project and others are aimed to prepare the ground for the future commercialization of the STREAM-0D solution after the end of the project.

In D7.2, the high-level objectives of the project have therefore been summarized in:

- **Increasing brand/project awareness** by conveying information about the project and its results so to draw the stakeholders' attention.
- **Stressing the importance of public-private collaboration** at European level and the **support from the European Commission** in achieving results that are poised to positively impact on the European economy, society, and environment.
- **Preparing the ground for the follow-up of the project**, by involving financial backers that could financially support the post-project go-to-market strategy.
- **Enhancing the reputation and visibility of the Consortium Partners at a local, national and international level**, by stressing the role they play in the implementation of the project and the impact that STREAM-0D can actually have on the industry 4.0 sector.

During the project period M1-M24, and consistently with the dissemination and communication guidelines defined in D7.2, a set of tools and activities have been identified and implemented. Some of them have been extensively described in the previous project deliverables, some others have been developed progressively with the project advancements.

This section aims therefore at showcasing all the dissemination and communication material so far produced by Day One (as partner in charge of the relates activities), each other project partner and partners altogether. Material already described in the previous deliverables will be just outlined while an extensive mention on M12-M24 activities – which include a thorough description of the new tools that have been implemented, their purpose and main features – will be provided: this will serve as an update on the project dissemination activities.

2.1 Website

STREAM-0D website has been released in December 2017. Deliverable 7.1 broadly details the features of the website, which can be found at www.stream-0d.com and/or www.stream-0d.eu. Following the previous SEO and optimization activities, the website is now totally operational in all of its sections and ready to host different type of contents. The 'blog' section features technical and detailed content regarding topics related to STREAM-0D goals and activities, the 'news' section provides an insight on 'what's going on' (ie. Events, project updates, etc.) and the 'results' page is ready to host information on the main achievements of the project. A cross-channel link building activity has been carried out in order to spread contents over different channels with the additional purpose of encouraging users to visit different STREAM-0D platforms.

In order to improve positioning on Google search engine, STREAM-0D website has been associated to a Google Search Console account. The integration will also provide valuable information regarding the traffic on the website through the Google Analytics service.

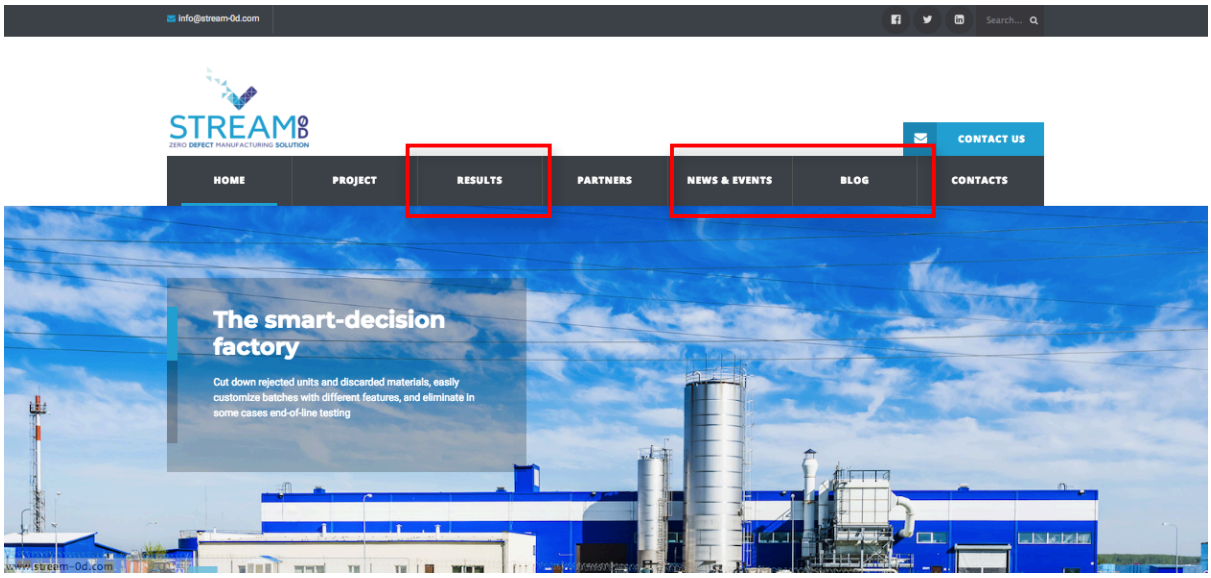


Figure 1. STREAM-0D website: the 'results', 'news and events' and 'blog' sections have been highlighted.

2.1.1 Blog section

As of today, the blog section of the STREAM-0D website hosts 7 articles. The articles feature original content produced by project partners covering different topics related to every aspect of the project such as its goals, the process, involved technologies, etc. The objective is to make available to the public original and valuable content about the project.

The articles will be delivered by partners and published by Day One following an editorial plan that has been specifically produced for this purpose. The plan established a set of 3 articles for each partner to be delivered within the month of September 2018 (the schedule might be updated and stretched according to partners' needs).

Article titles have been already shared and confirmed by all the partners during the planning phase. The articles are reviewed and edited by Day One, which makes sure that it is consistent with the editorial plan in terms of contents and that it fulfils technical requirements such as readability (by creating an appropriate title when needed, an article intro and paragraphs) and SEO.

Specifically, SEO activities aim at giving prominence to a specific key word inside the article in order to make it more readable by search engines robots like the one used by Google. The 'snippet' of the article is defined too, in order to make it more appealing in Google Search results pages and so is the '_alt' tag of every image. When not provided by partners, custom images are added by Day One.

Figure 2. STREAM-0D website: an excerpt from the 'blog' section (http://www.stream-0d.com/blog/).

Once edited, the articles are included in the 'blog' section of the website through the native functionalities of the Wordpress CMS upon which the website was developed (see D7.1 for details).

At the end of every article, social media icons allow users to easily share content through their social channels. SEO optimization performed during the article publishing procedure facilitates link building activities throughout different STREAM-0D channels by the dissemination team and the project partners.

Currently, most of the content published in the 'blog' section is part of the 'Bits Of STREAM-0D' initiative, which will be further described in paragraph 2.2.1 of this document. The 'blog' section includes also an article on STREAM-0D published on the Italian magazine 'Industria Italiana'. The article has been written by Day One and will be described thoroughly in paragraph 2.5.1 of this document. The blog version of this article is just an extract from the original one: in fact, the part that focuses on the end-users has been cut and will be used to create three more articles that will therefore feature a focus on the application of the STREAM-0D project.

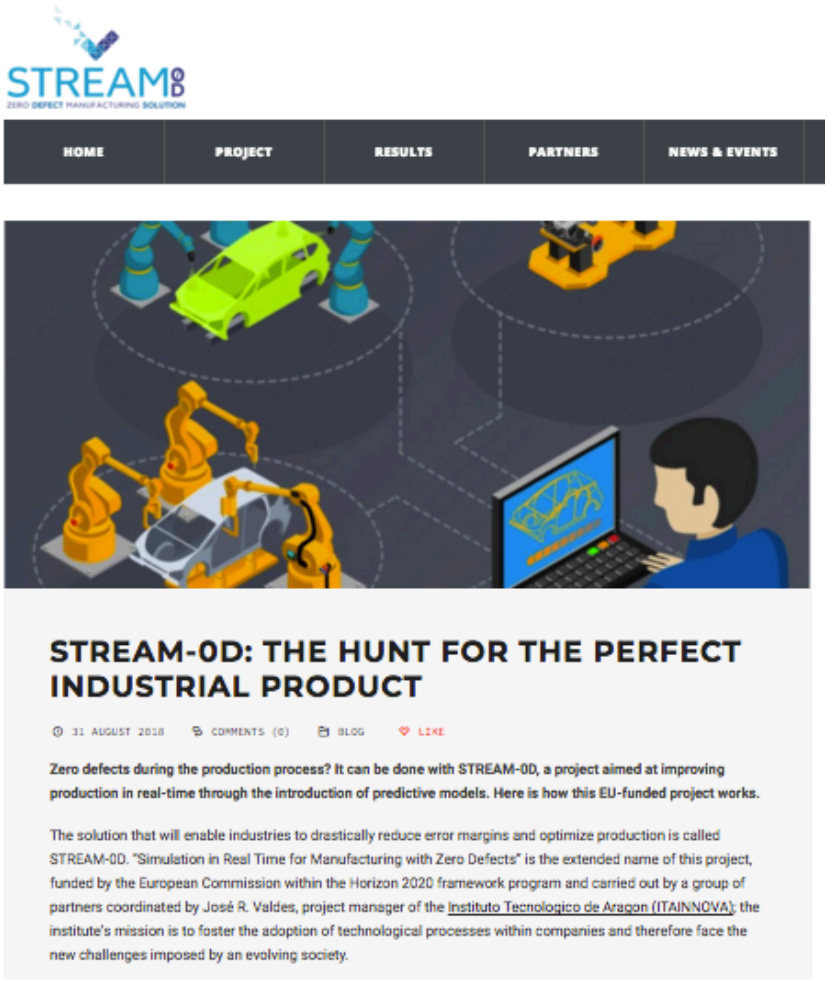


Figure 3. STREAM-0D website: the extract from the article published on *Industria Italiana* and that appears in the 'blog' section.

2.1.2 News and events section

The news and events section was designed to host every kind of content other than in-depth analysis or technical articles. The section therefore features updates on STREAM-0D activities and partners and it also represents a repository for reports of events in which project partners participated.

The goal of such website section is to favor cross-media and cross-content navigation of website users. News are created and published by Day One paying close attention to link building between the other STREAM-0D channels and the ones owned by partners.

The 'news and events' section is used also to promote 'Bits of STREAM-0D' content: a thorough description of this initiative will be provided in paragraph 2.2.1 of this document.

News follow the standard guidelines for the publishing of web content: content is SEO compliant and so are the 'snippet' and the '_alt' tag of every image (see paragraph 2.1.1 'Blog' for further details). Images are generally produced by Day One. Articles are included in the 'news and events' section of the website through the native functionalities of the Wordpress CMS upon which the website was developed (see D7.1 for details).

Social media icons are added at the end of every article: these will allow users to easily share content through their social channels. News are created in order to facilitate link building activities by the dissemination team and STREAM-0D partners in general.

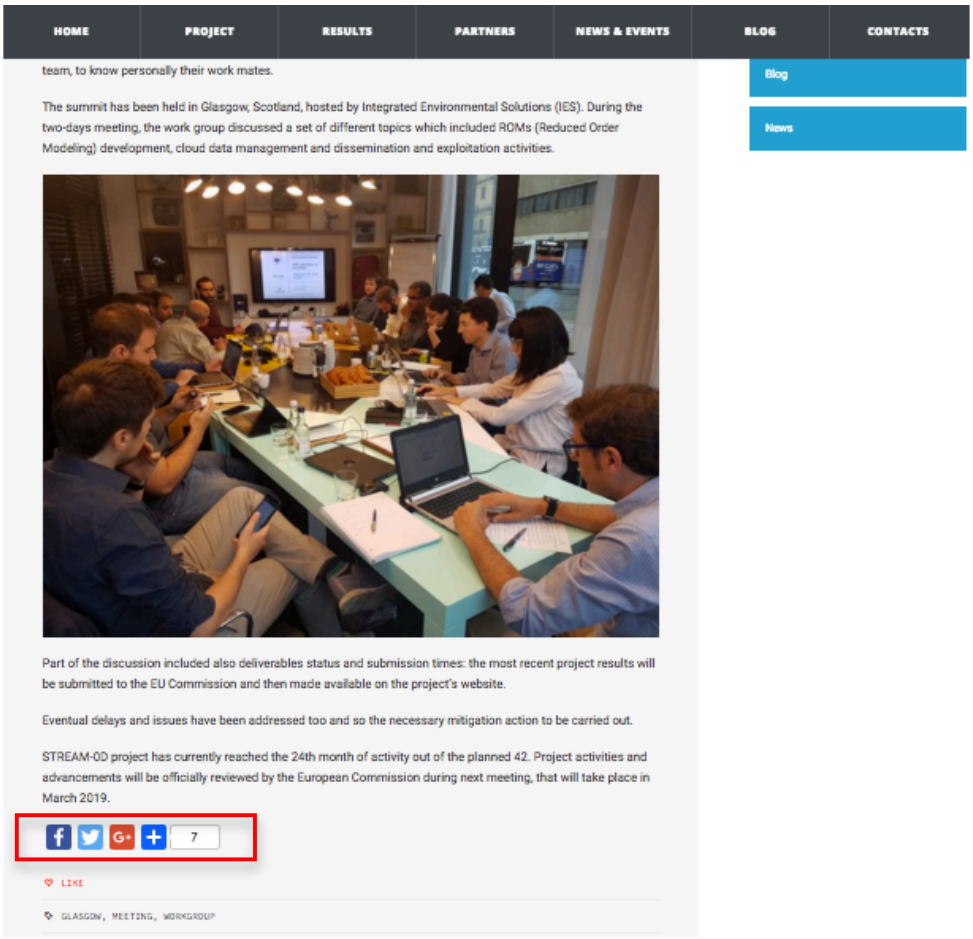


Figure 4. STREAM-0D website: social media icons are meant to foster content sharing.

2.1.3 Results section

The 'results' section of the STREAM-0D website is intended to be a repository for all the deliverable produced by partners since now.

Given the sensitive information that some of the deliverables include, it will not be possible to publish material in its entirety, therefore an editing procedure will be needed.

Day One is currently evaluating the most efficient way to publish the executive summaries of the deliverables so far submitted in order to satisfy a problem-solution-conclusion scheme: valuable concepts will be then extracted from the executive summary paying attention not to leak confidential information about the entities involved in the project.

Deliverables published in the 'results' page of the website will feature images and will be downloadable in pdf format.

2.1.4 Link building

The link building activity between website content and social media networks (and vice versa) has been strengthened to favor cross-media navigation by users. As an example, a user could hypothetically read a STREAM-0D post on Facebook, follow the link and access the related blog post and its accompanying video (see paragraph 2.4.3). From the point of view of STREAM-0D, this activity would translate into impressions on Facebook, visits on the website (blog section) and video views on YouTube.

As highlighted in the previous paragraphs dedicated to the 'blog' and 'news and events' sections, every post features links to related content on the website.

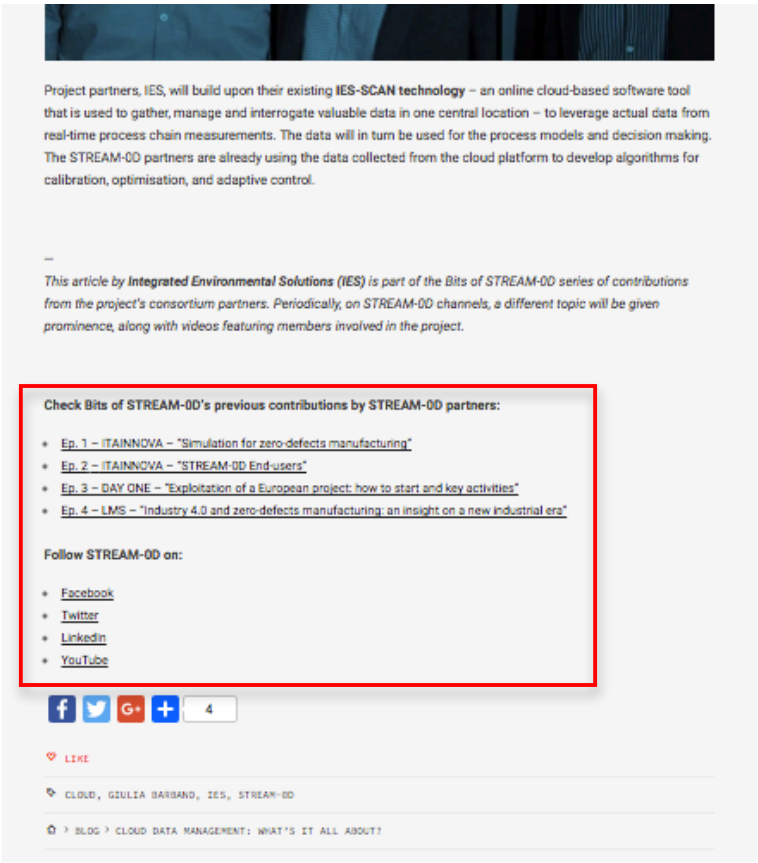


Figure 5. STREAM-0D website: internal and external links for link building purposes.

2.2 Social media

Social media activities are meant to spread information, initiatives, updates and achievements regarding the STREAM-0D project.

Building a community on a very specific and technical subject such as the one STREAM-0D is about, is not an easy task: in order to enlarge the community it will be necessary to rely more and more on original content (mostly blog and articles) and on the involvement of groups of interest that are already present on social networks. In fact, the goal is to attract people active in the domain of industry 4.0 through an organic reach instead of a paid one.

The increase in STREAM-0D followers will also allow a direct contact with potential stakeholders.

As of today, STREAM-0D project relies on the following social media, the traits of each one have been described thoroughly in D7.2:

- **Facebook**: since the launch of the 'Bits of STREAM-0D' initiative (see paragraph 2.2.1) the Facebook page of the project features an average of 1-2 posts per week; posts present different content: web links (mainly to the project website), images, videos and simple text – with mentions to related subjects (ie. The European Commission and/or the project partners) and appropriate hashtags (ie. #industry40, #SmartManufacturing, etc.). Posts register is not too formal or technical, in line with the 'casual' characteristics of this social network.

- **Twitter**: this is proving to be the social network with the most interaction from its followers. Tweets feature diverse content such as links, images, videos and text – with mentions to related subjects (ie. The European Commission and/or the project partners) and appropriate hashtags (ie. #industry40, #SmartManufacturing, etc.). Tweets register is not formal and very direct, so to take advantage of the limited amount of characters that this social network provides.

- **LinkedIn**: LinkedIn is the only social network in which all the partners of the project are present with a company page. Given the business orientation of this social network, posts register is slightly more formal and technically detailed. Hashtags are not supported while mentions to other pages are: this turns to be useful in order to involve other partners. Posts feature different content such as text, images, videos and links. An accurate monitoring of LinkedIn groups recently brought to the identification of a cluster of groups that cover topics of interest for potential STREAM-0D stakeholders. A dissemination campaign within these groups has just begun and will focus on spreading information about the project and the partners involved. The idea is to monitor reactions by followers of each group and eventually contact them personally in order to make them join STREAM-0D channels and/or activities.

- **YouTube**: this channel has been recently activated and features a video interview and video presentations of the partners. These video presentations will be further detailed in paragraph 2.4.3 of this document. Video represents an essential content for STREAM-0D communication and dissemination activities due to its immediacy and the fact that it can be used on a long time range and within several different channels. Each video uploaded on YouTube has been subtitled in English to make it available also during auto-play reproduction on social networks.

A **Slideshare** account will be activated once enough presentations will be available for dissemination. At the moment, presentations are being collected by partners which participated to events and they will eventually published under the 'resources' section of the STREAM-0D website. The presentation currently available in the same section is related to a general introduction of the project (see 'project profile', paragraph 2.3).

The work carried out in terms of SEO allows an easy integration between the website and the various project social media channels – the latter being an important tool to activate the link building process (see paragraph 2.1.4).

Figure 6. Facebook post showing a link to a content on STREAM-0D's website (https://www.facebook.com/stream0d/).

Figure 7. A tweet showing a link to a STREAM-0D video on YouTube (https://twitter.com/Stream0d).

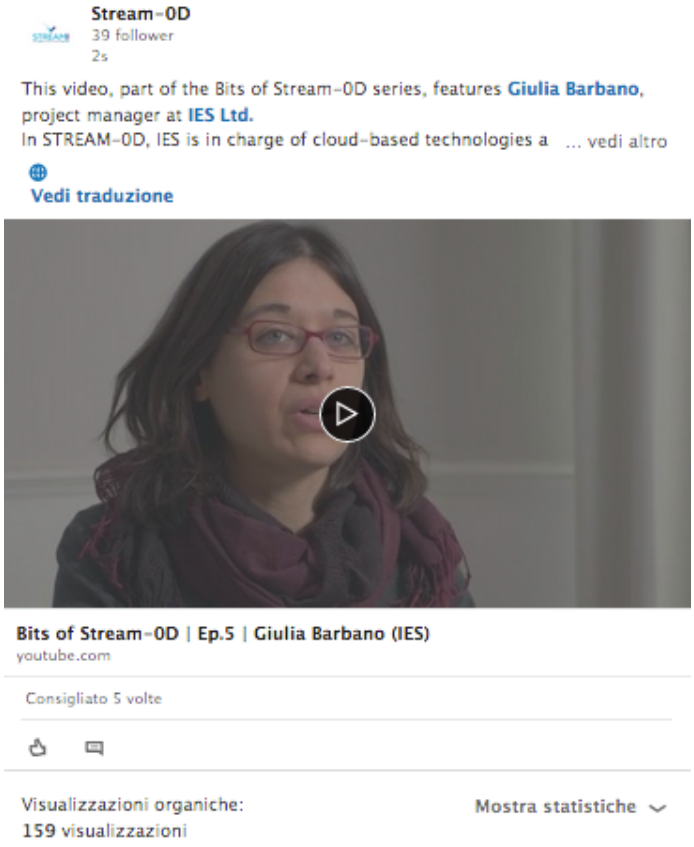


Figure 8. A LinkedIn update showing a link to a STREAM-0D video on YouTube (https://.linkedin.com/company/stream-0d).

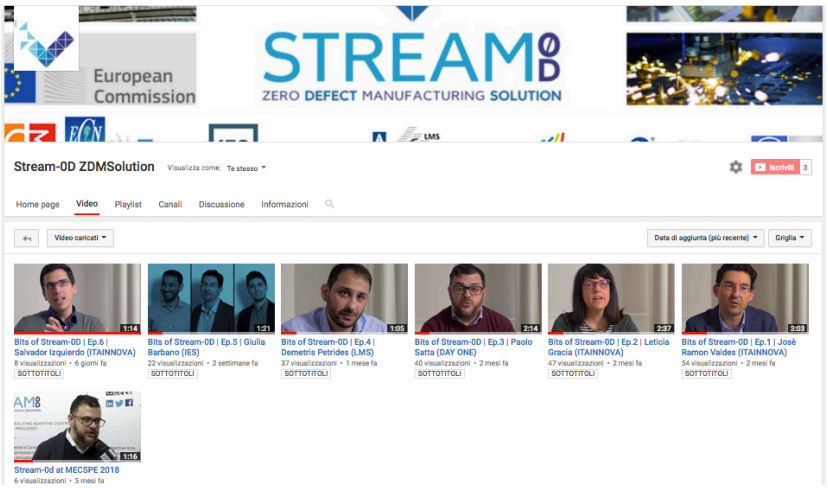


Figure 9. STREAM-0D's YouTube channel (https://www.youtube.com/channel/UCnSPLiZdG_5YB5-hsTngAFg).

2.2.1 Bits of STREAM-0D

'Bits of STREAM-0D' is a series of articles and videos aimed at covering STREAM-0D related topics and the activities carried out by partners in the project.

The series has been designed as a linear path of content in which, starting from a general introduction of the project goal, every aspect of STREAM-0D will be highlighted. While giving exposure to the project, 'Bits of STREAM-0D' is also meant to improve the connection between different project channels (ie. Social networks and website) and encourage users to navigate through all the project resources.

The technical part of the project is obviously the main focus of 'Bits of STREAM-0D' articles – which are published in the 'blog' section of the website (see paragraph 2.1.1 for a detailed description of the section); nevertheless, prominence will be also given to partners and their involvement in the project.

A dedicated editorial line has been created in order to plan the publishing of the content on STREAM-0D channels.

			SITO	YOUTUBE	FACEBOOK	TWITTER	LINKEDIN
QUANDO:	3-16 settembre 2018	LUN 3 SETTEMBRE			Post dedicato con descrizione breve che rimanda al topic e a IES	Tweet con descrizione che rimanda al topic e al partner (IES) in cui compaiono #contestuali, #ufficialiEU e #proprietari	Post dedicato con descrizione approfondita che rimanda al topic, menzione al (ai) partner (IES + altri?)
TOPIC:	Cloud data management						
PARTNER:	IES	GIO 6 SETTEMBRE	pubblicazione news sul video	Pubblicazione video IES			
	Episodio 5	LUN 10 SETTEMBRE			Post dedicato per il video IES con descrizione breve che rimanda al topic, a IES e link alla news con video sul sito	Tweet con descrizione che rimanda alla news con video sul sito in cui compaiono #contestuali, #ufficialiEU e #proprietari	Post dedicato al video IES con descrizione approfondita, menzione al (ai) partner e riferimento alla news con video sul sito
		MER 12 SETTEMBRE	blog post IES (con video a corredo)		Post con descrizione breve che rimanda al topic, a IES e link al blog post sul sito	Tweet con descrizione che rimanda al blog post sul sito in cui compaiono #contestuali, #ufficialiEU e #proprietari	Post con descrizione approfondita, menzione al (ai) partner e link al blog post sul sito

Figure 10. Bits Of STREAM-0D editorial plan.

The first episode of part 1 of 'Bits of STREAM-0D' has been released at the beginning of July 2018. The least episode of part 1 will be released at the beginning of December 2018. Each partner will be given the chance to describe its role in the project through dedicated video presentations (see paragraph 2.4.3 of this document) and provide an insight on the activity they carry out through an article, taking also advantage of about 2 weeks of 'dedicated' visibility on STREAM-0D channels.

Content will be spread on STREAM-0D social media channels and will be included also in other online dissemination activities that involve other kind of sources (ie. Posting content in LinkedIn groups).

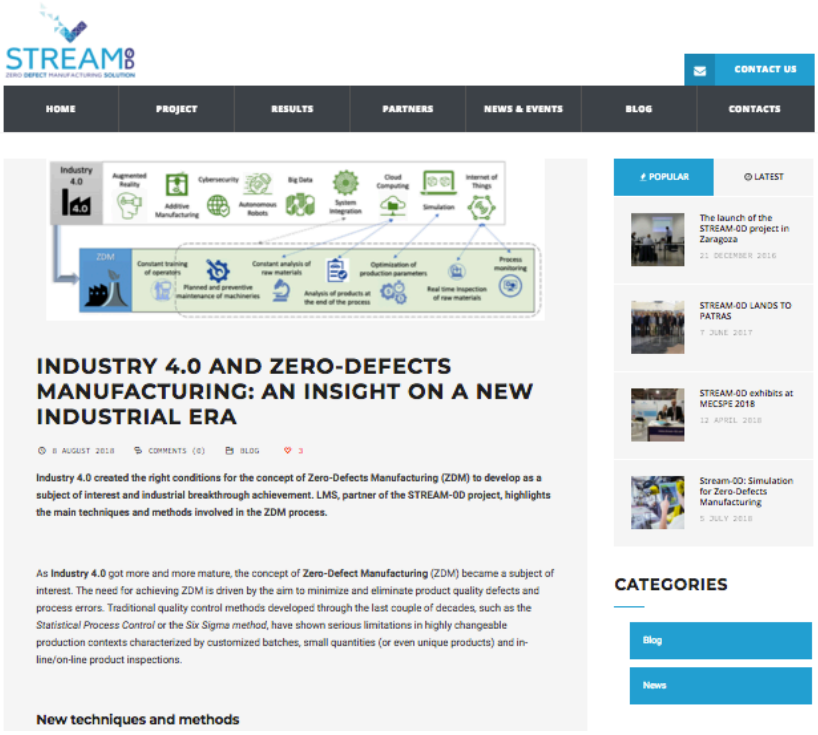


Figure 11. Bits Of STREAM-0D: LMS article (episode 4) published in the 'blog' section of STREAM-0D's website.

2.2.2 Social media coverage map

Dissemination activities must rely on internal or proprietary channels (ie. STREAM-0D website, social media channels, etc.), and also on external resources such as the ones provided by project partners. This, in order to obtain increased coverage of the published content – through mentions, link building activities and/or reposting of such content by partners.

To do that, a social media coverage monitoring for each partner has been carried out. This led to the creation of a 'map', that is useful to determine whether a partner is active or not on a certain social media and, if so, what kind of coverage it could potentially offer in terms of dissemination of STREAM-0D promotional material.

Needless to say, such an activity requires a collaborative approach between all the partners involved in the project. Discussions regarding this matter between Day One – that is in charge of communication and dissemination activities – and the other partners are underway.

2.3 Offline material

Offline material consists of physical media (mostly print-based) aimed at providing visibility for the project and awareness around its goals, the involved technologies and the partners participating in the project. Such dissemination material is meant to be spread during events

(trade fairs, workshops, round tables, etc.) and during one-to-one meetings (ie. with potential stakeholders).

- **Project brochure:** STREAM-0D 3-folded brochure (figure 12, 13 and 14) provides general information regarding the project (logo, social media linking through a QR code and an info-graphic depicting the process), and details the project's methodology, its goals and the partners that are involved in it. The project brochure is in line with the project's corporate identity in terms of colours, proposed images, general design. It has been delivered to project partners for dissemination during events and meetings with stakeholders.

- **Project bookmark**: the two-sided project bookmark (figure 15) is intended to be easily carried and spread by project partners or stakeholders in order to increase awareness around the project. It is also a useful item to be included inside events booklets or just given during one-to-one meetings. The front page of the bookmark features general information about the projects such as objectives and the methodology. The rear features a detail on the project goals and an example of an in-line application of the process. The project bookmark is in line with the project's corporate identity in terms of colors, proposed images, general design. The pdf version of the bookmark is available on STREAM-0D website, under the 'resources' section.

- **Project poster:** posters can be a useful tool of dissemination during events such as trade fairs or workshops. Installed inside a booth, they attract people and take advantage of the size to convey information regarding the project. As an offline dissemination tool, they differentiate from the project brochure or the bookmark as they can be considered a static media. Posters suit best during conferences and workshops in which technical representations are needed. STREAM-0D poster in figure 16 features an introduction to the project, a detail on its goals and an example of an in-line application of the process. The pdf version of the project poster is available on STREAM-0D website, under the 'resources' section.

- **Project roll-up:** roll-ups are a useful tool during, events, trade fairs and workshops, where they can be placed inside a booth or nearby a desk or even close to the stage where the project presentation will take place. They can be used also as a background during interviews or photo shootings. STREAM-0D roll-up (figure 17) is about 200 cm high and features a visible logo, a description of S0D process and goals and a focus on in-line applications and therefore to end-users. Partners' logos are quite visible at the bottom with a special highlight on the coordinator's one.

- **Project profile:** STREAM-0D profile (figure 18) is a presentation in which the main and general aspects of the projects are highlighted. The document features therefore information on the project concept, the technical approach, the

demonstrators, involved partners and expected results. Such a tool should be considered as an introduction to the project and it can be used during workshops or conferences in which topics are general (ie. 'industry 4.0', 'smart manufacturing', etc.)and not focused on the technological or organizational aspects of the project. The pdf version of the project profile is available on STREAM-0D website, under the 'resources' section.

Figure 12. The STREAM-0D project square brochure.

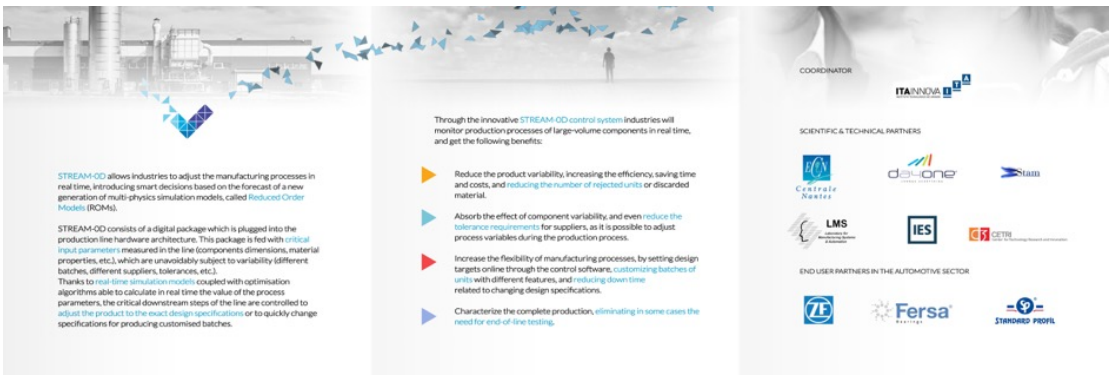


Figure 13. The internal pages of the 3-folded brochure.

Figure 14. The external pages of the 3-folded brochure.

Figure 15. The project bookmark (front and rear page).

www.stream-0d.eu

STREAM-0D
Simulation in Real Time for Manufacturing with Zero Defects

STREAM 0D
ZERO DEFECT MANUFACTURING SOLUTION

OBJECTIVE OF THE PROJECT

The main objective of STREAM-0D is to allow industries to adjust the manufacturing processes in real time, introducing smart decisions based on the forecast of multi-physics simulation models.

Through an innovative control system industries will monitor production processes of large-volume components in real time, reducing the product variability, increasing the line flexibility, and achieving zero defect production.

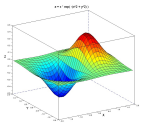
HOW IT WORKS

Reduced Order Modelling is a new generation of techniques which are able to predict the product quality indicators in response to critical input parameters. The models are fed with actual data from online measurements: based on the model prediction, they allow workers to control the critical steps of the line so to adjust the product to the exact design target specifications, or to quickly change specifications for producing customized batches.

GOALS OF STREAM-0D

1. To monitor and adjust the production process in real-time, so that the product performance indicators fit the target, achieving zero defects in the final product.
2. To decrease the time needed for the adjustment and ramp-up of the production line and the fabrication process parameters for new designs by at least 30%.
3. To increase the efficiency of the line by achieving at least a 10% reduction in rejected units and material.
4. To reduce production costs by at least 15% and increase production rates by at least 15%.
5. To demonstrate these model-based control tools on three real process chains, so to reach a pre-marketing stage.

EXAMPLE OF IN-LINE APPLICATION



Reduced Order Models and the initial set of KPIs are used to feed the system

Real Time running ROMs enable operators to adjust key parameters during in-line production

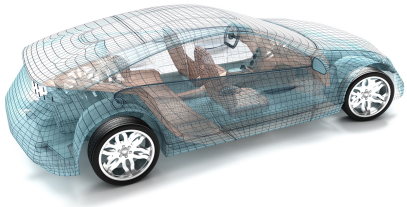
ROMs work with real time data acquisition from the line, and allow for the adaptive control of the process through a simple interface

END USER PARTNERS & APPLICATIONS

ZF — Braking actuation units (Booster)

Fersa Bearings — Tapered roller bearings

Standard Profil — Body/door mounted seals



SCIENTIFIC & TECHNICAL PARTNERS

ITAINNOVA · C3 · ECN Centrale Nantes · dayone · IES · Stam · LMS Laboratory for Manufacturing Systems & Automation

Figure 16. The poster of the STREAM-0D project.

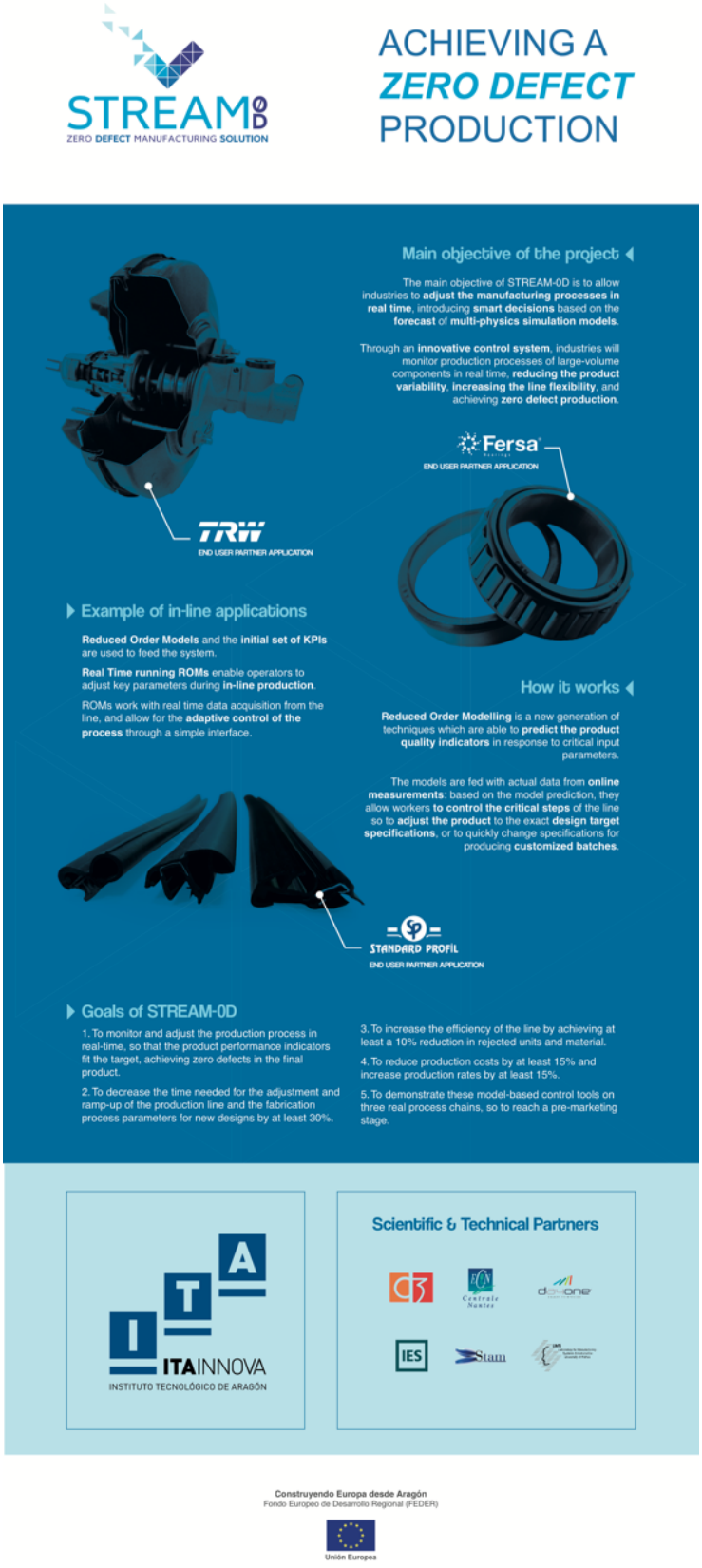


Figure 17. The roll-up of the STREAM-0D project.

Figure 18. Pages from the project profile.

2.4 Other tools

This paragraph showcases the latest tools that have been introduced within the communication and dissemination plan. These three items complement the activities that had been already carried out and have been designed to increase the effectiveness of the message towards potential stakeholders and general public. As the project evolves, these tools could be strengthened and/or improved.

2.4.1 Newsletter

Email newsletters can be powerful tools to create awareness and disseminate around a project. Fast and easy to deploy, emails allow a targeted and flexible approach with the audience and implement accurate measuring tools in order to verify the target reactions.

STREAM-0D dissemination strategy will soon lean on such a tool. The objective of newsletter campaigns is to provide subscribers and, more specifically STREAM-0D stakeholders, with selected content regarding the project deriving from the same project channels. Videos, articles, news and general updates on the STREAM-0D can be therefore picked and merged in a common space and then delivered to the target. The effort for the creation of such newsletters is substantially reduced given the fact that most of the content is already present on the website.

Initially, newsletters will be published every two months and will be delivered to a mailing list of people who showed interest in the project. The potential growth of such base of contacts will strongly depend on the effort that every project partner will put into practice during the execution of STREAM-0D related activities. An active participation in terms of dissemination during events, workshops or conferences, a direct involvement of colleagues and friends, are just a couple of examples of a good predisposition towards the development of the base of contacts. And this will also serve the purpose of incrementing the stakeholders community, in line with STREAM-0D WP7 goals.

STREAM-0D project newsletter system relies on the third party service Mailchimp and, through a dedicated plug-in, is fully integrated with the Wordpress platform upon which the project website has been developed. Such a tight integration will make possible to retrieve the newsletter content directly from the website with a reduced effort in terms of time and with an optimization of the dissemination work. The integration will also make possible to host, on the STREAM-0D website, a subscription form that allows users to subscribe directly to the newsletter.

Currently, the STREAM-0D newsletter template has been defined and it will be finalized as soon as the Mailchimp-Wordpress integration and the mailing list normalization are done.

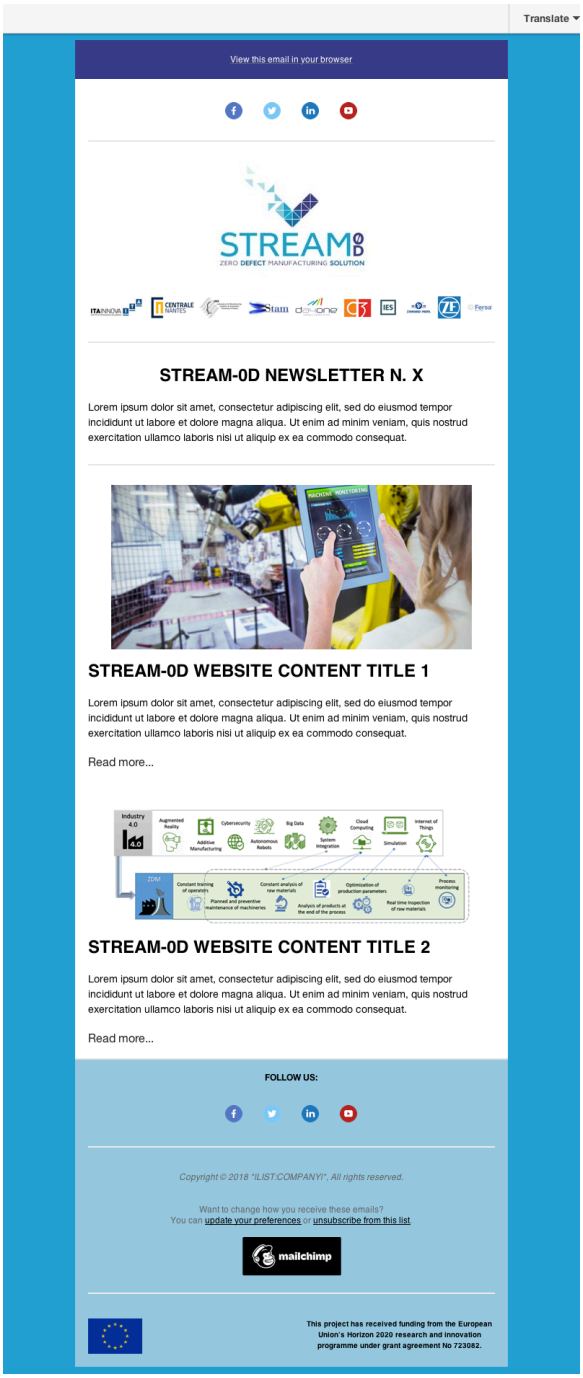


Figure 19. STREAM-0D newsletter mock-up.

2.4.2 Info-graphics

A set of two info-graphics has been designed and developed in order to achieve two different results:

- make the underlying STREAM-0D concept more understandable through a graphical recap in which the different phases of the process (figure 20) are clearly highlighted and in which the involved technologies as well as the objectives of the project are

underlined. The resulting info-graphic depicted the STREAM-0D process separating it in two different settings: 'System supply' deals with the data feeding phase of the process, while the 'Production line' one deals with the actual production phase. In the middle stays the process control phase that, acquiring data thanks to mobile, cloud and AI technology, allows the real-time adaptation of the production process. At the bottom of the info-graphic, a dedicated box features the results/objectives of the STREAM-0D project.

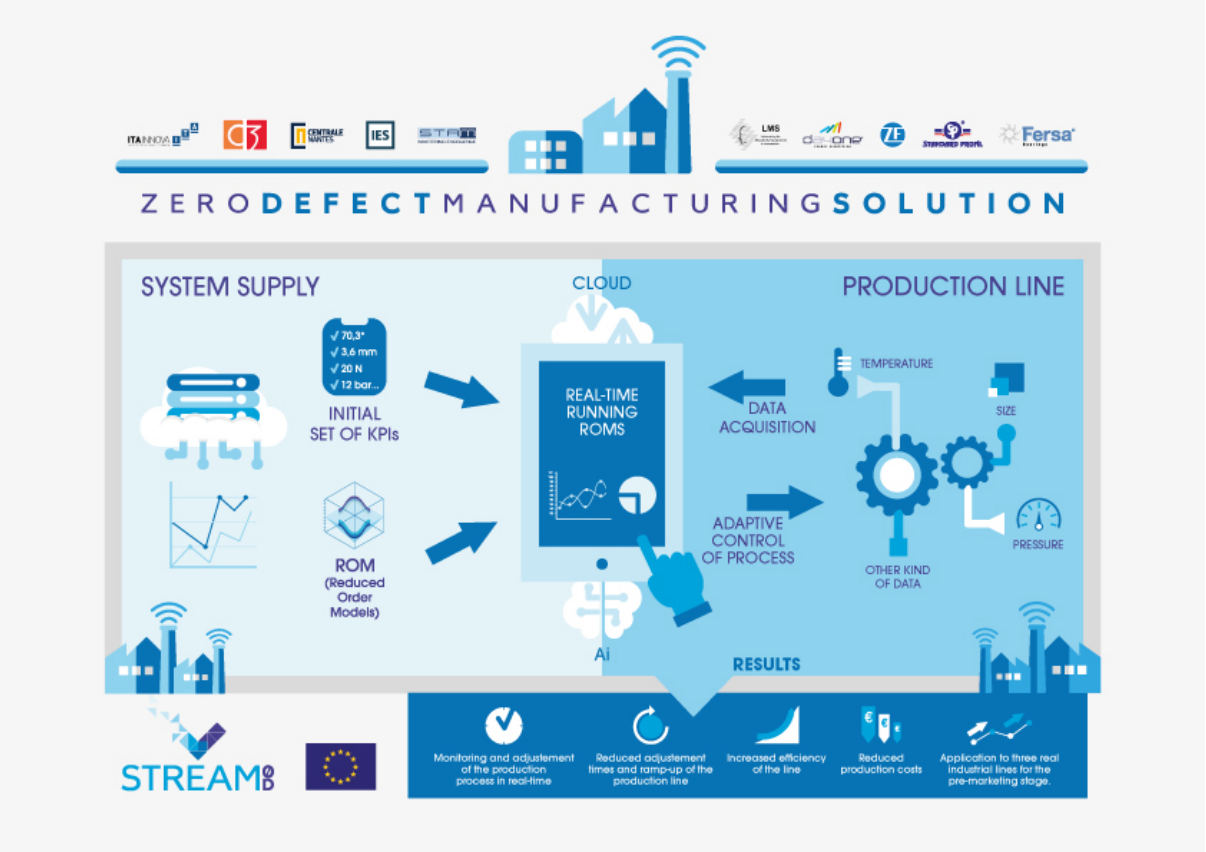


Figure 20. STREAM-0D process newly implemented info-graphic.

- provide a specific visibility on the activities carried out by the partners involved in the project. In the resulting info-graphic (figure 21), STREAM-0D partners have been placed in correspondence with one of the four project segments (Coordination, Scientific and Technical partners, End-users and Dissemination), according to the different activity carried out in STREAM-0D. A circular scheme has been chosen, in order to make the equal involvement clear. A dedicated caption describes the activity of each partner.

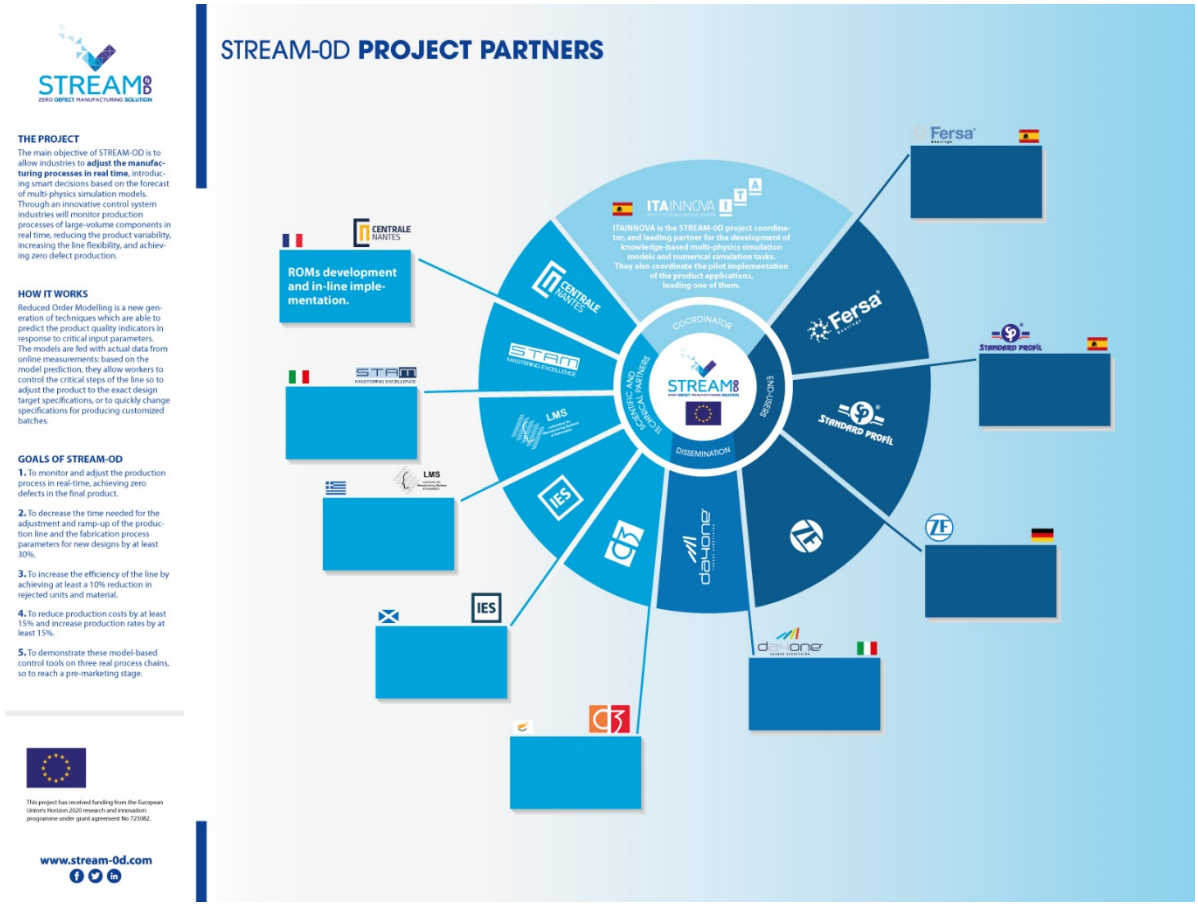


Figure 21. STREAM-0D partners' involvement info-graphic (currently under production).

Such dissemination tools will be made available to all the project partners and will be uploaded in the 'resources' section of the website. Ideally, in the effort of making a complex process as clearer as possible, the info-graphics will be used as graphical complements for presentations, articles and the future dissemination materials that will be produced.

2.4.3 Video-presentations

Videos are a popular online content and they stand out for their immediacy and strength in conveying several different kinds of messages. They are also very adaptable and can be used on various online and offline platforms and devices (ie. social media, websites, TV, etc.). As a dissemination tool, videos can be used to spread the word about the project and therefore increase the awareness around it and around the activities that the partners are carrying out.

Ten videos have been produced in order to make them available on STREAM-0D channels through links towards the official YouTube channel of the project. As of now, videos have been mainly used within the 'Bits Of STREAM-0D' initiative (see paragraph 2.2.1) and then shared on all the project channels (Facebook, Twitter and LinkedIn). Partners that participated to the shooting took the opportunity to talk about their involvement in the

project and provide an insight on the technologies and the scenarios that the future development of the project will deliver.

Other two videos have been already planned. The first one will probably be a motion graphics video representing the concept underlying the STREAM-0D process, while the second one will be conceived as a documentary featuring interviews and on-site shooting with partners and end-users, with the aim of providing the public with an extensive view of all the aspects of the project. This last video will most likely be ready in correspondence with the final steps of the project.

Figure 22. Bits Of STREAM-0D episode 6 featuring a video-presentation by ITAINNOVA.

2.5 Publications

Articles are an effective dissemination tool in order to generate awareness around the STREAM-0D project through media operating in specific fields such as industry 4.0, smart manufacturing, automation, robotics, mechatronics, etc. Publications include also STREAM-0D content that has been included in other media such, as an example, conferences/events proceedings.

In this first phase, the goal has been the exploitation of media able to offer visibility free of charge. Once STREAM-0D project will evolve and therefore present a more conspicuous amount of results, a paid visibility strategy could be implemented.

2.5.1 Article on 'Industria Italiana'

The Italian online magazine 'Industria italiana' published, on June 4th 2018, an article dedicated to the STREAM-0D project titled '*In cerca del prodotto industriale perfetto*' ('*The hunt for the perfect industrial product*' - https://www.industriaitaliana.it/in-cerca-del-prodotto-industriale-perfetto). The article, written in close cooperation between Day One team and a journalist from the magazine, provides an in-depth analysis of the project and its underlying concept and objectives, focusing on the concept of industry 4.0 and the potential benefits that the project could deliver in terms of waste reduction, production process optimization and sustainability. A special mention is given to the three end-users through dedicated paragraphs.

The article was published free of charge as part of an agreement with the publisher, who gave availability for publishing on the magazine as long as Day One would take care of the main composition work.

Following the same agreement, the article has been also translated in English and Spanish for dissemination on other channels other than the Italian ones. An extract from the English version of the article has been already published in the 'blog' section of STREAM-0D website: the missing parts, that are the ones concerning the three end-users, will be used separately for future and dedicated dissemination activities. Reference to the original version of the article has been provided at the end of the blog post.

The Spanish version of the article will be published on pertaining channels: contact are underway in order to get visibility on Spanish magazines.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In cerca del prodotto industriale perfetto

4 giugno 2018

di Bruna Rossi ♦ Difetti zero nel processo di fabbricazione? Si può fare, con il sistema STREAM-0D, che consente di migliorare la produzione in tempo reale grazie a modelli predittivi. Ecco come funziona questo progetto finanziato dalla Commissione Europea, con tre case histories dal settore automotive

Figure 23. The article about STREAM-0D originally published on the Italian online magazine Industria Italiana.

2.5.2 51st CIRP Conference (Manufacturing Systems) proceedings

The article, titled '*Automotive weather strip manufacturing: Process modeling and extrudate dimensional accuracy evaluation*' (P. Stavropoulos, H. Alexopoulos, A. Papacharalampopoulos, D. Mourtzis) was presented during the 51st CIRP Conference on Manufacturing Systems (see paragraph 3.3) by project partner LMS and then published on the conference proceedings (Volume 72, 2018, pages 375-380) and online on Elsevier's platform 'ScienceDirect' (https://doi.org/10.1016/j.procir.2018.03.120). A reference to STREAM-0D project can be found in the article. Following, a brief abstract of the paper:

The paper presents the computational modeling results of the rubber extrusion manufacturing process. The impact of the die swell phenomenon is quantified by running iterative models, differentiating the inflow rate. The extrudate's dimensions are identified by making use of image processing algorithms for detecting the edge. Also, the velocity values at the outlet are calculated for various inflow rates and are presented graphically. The generated rules are correlating the manufacturing parameters with the Key Performance Indicators (KPIs) and can predict the extrudate's dimensions towards zero defect manufacturing.

2.5.3 12th CIRP Conference (Intelligent Computation) paper

The article, titled '*A Defect Tracking Tool for Products Manufactured by a Process-chain utilizing Modelling*' (A. Papacharalampopoulos, D. Petrides, P. Stavropoulos) was presented during the 12th CIRP Conference on Intelligent Computation in Manufacturing Engineering. The paper has not been published yet but it has been accepted therefore it should be released online very soon. Following, a brief abstract of the contribution:

In production lines consisting of multi-process chains, defects are hard to be detected, especially with a single-stage measurement. The idea presented in this paper concerns real-time defect tracking through modeling leading to zero-defect manufacturing. The a priori knowledge of a mechanical system response is used. To this end, examples of final products of gradually increasing complexity are studied in an attempt to detect the defect causes. The objective is to be able to manage highly complex products, such as the booster of brakes in automotive industry.

3 Section 2: Further resources

This section introduces all the indirect dissemination tools that have been activated in order to spread information and increase the awareness around the project. In fact, dissemination activities must be intended as a collaborative action between various entities at different levels. The objective is the creation of a network of dissemination sources working independently but together in the promotion of STREAM-0D activities and achievements. External tools to support STEAM-0D dissemination activities and the ones of the related ZDM cluster have been identified too.

3.1 Associations

Associations represent an important aid in terms of dissemination: they possess a vast and reliable database of contacts that could serve as a source to interact with people, companies and stakeholders interested in STREAM-0D at different levels – depending on the kind of association. To join associations and take advantage of their services, a subscription fee is often required.

In the last months, work consisted in identifying a cluster of associations active in the industrial fields in which potential STREAM-0D stakeholders operate. The selected associations are all Italian: non-Italian partners have been requested to provide a list of local association that might be interested in the project in order to enlarge the cluster.

The interest of the selected associations in the project is being monitored in order to understand the intensity of their potential involvement, the strength of their channels and network, their willingness to promote and support STREAM-0D dissemination activities – possibly without charging any fee.

There is an ongoing discussion with 3 associations in order to take advantage of their contacts/services:

Association	Contact	Description	Audience of interest for S0D	Sub. fee
ANIMA (Italy)	Simonetta Galletti	ANIMA is an Italian organization that represents companies in the mechanical industry. At the moment, the discussion is about finding the best way to exploit their channels; also, the possibility to jointly organize a round table inviting people, companies and stakeholders who belong to the association database is being discussed.	Companies dealing with technologies and products for the industry.	YES
FABBRICA INTELLIGENTE (Italy)	Giuseppe Fogliazza	'Fabbrica intelligente' is an Italian technological cluster that fosters the innovation and specialization of Italian manufacturing systems. The actual discussion is about the possibility to use the contacts of the associations and participate to the events it organizes.	Small-medium and big companies, universities and research centres and other stakeholders active in advanced manufacturing.	YES
Spanish associations	ITAINNOVA	Spanish associations will be contacted directly by ITAINNOVA: the goal is to introduce directly to the concepts of industry 4.0 and ZDM and avoid potential closures due to unknown sources of contact (ie. Day One).	NA	NA

3.2 Project partners involvement

Project partners play an essential role from both the technological and coordination point of views but also in terms of dissemination. As a matter of fact, every partner can provide visibility to the project by exploiting their proprietary channels – the digital and traditional ones. The partners' social media coverage map introduced in paragraph 2.2.2 of this document serves this exact purpose: to identify the channels in which each project partner can contribute in the dissemination of STREAM-0D's news, achievements, results, etc.

This kind of teamwork is meant to significantly expand the network and the potential coverage of the disseminated contents and it is supervised by Day One as the project's communication and dissemination manager. A set of guidelines has been implemented and shared within the consortium. These guidelines practically request partners to:

- share STREAM-0D-related digital content (videos, news, articles, etc.) on their social media channels, possibly building links towards the official project channels.
- invite anyone who might be interested in the project to join the project channels (with the purpose of enlarging the project community).
- provide the communication and dissemination manager with useful information regarding potential contacts or local dissemination resources that could be exploited for the promotion of STREAM-0D.
- when participating to events (trade fairs, workshops, conferences, etc.), show an active involvement by introducing attendees to STREAM-0D, acquiring contacts, inviting people to follow the project activities, etc.

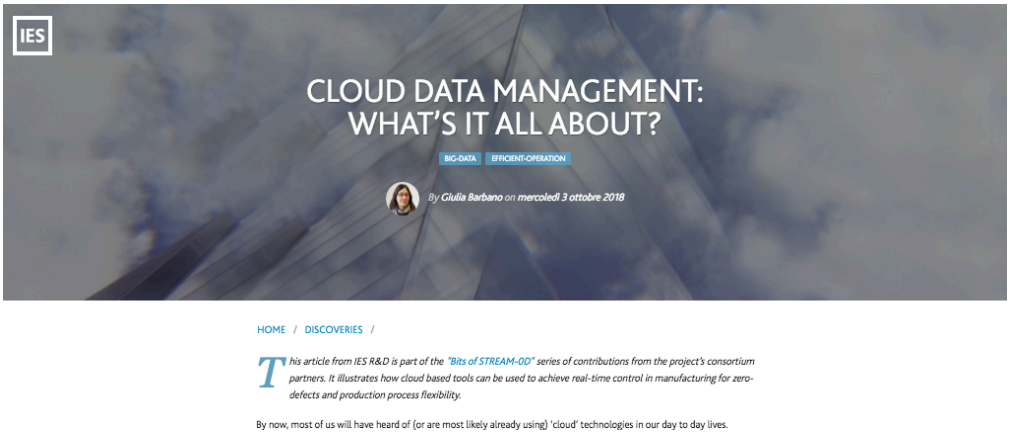

Figure 24. IES re-posted on its website an article originally appeared on STREAM-0D website under the 'Bits Of STREAM-0D' initiative.

3.3 Events

Project partners participated, at different levels, to European events. Following, a list of events in which STREAM-0D has been presented. Each event has been profiled and the involvement of the partner has been highlighted.

Event	**PATRASIQ**
Sector(s)	Research, technology transfer
Description	PATRAIQ main objective is to create a critical competitive advantage both in the research community as well as in the productive sector, through a constant effort to solve problems and apply innovative ideas for the development of new products and services and the optimization of existing ones, which aspire to conquer a part of the national (Greece) and global market.
Date	27-29 April, 2018
Location	Patras (Greece)
Participating partners	LMS
Presentation (Y/N, title)	Yes, general presentation about the STREAM-0D project.
Event	**51st CIRP CMS 2018**
Sector(s)	Artificial intelligence in manufacturing, AR and VR in manufacturing, Big data analytics in manufacturing, Cloud-based manufacturing. Manufacturing modelling, simulation and optimisation, Smart manufacturing
Description	The objective of the conference is to review and discuss the advances, research results and industrial improvements in the field of manufacturing systems, providing an international forum of researchers a place to share and discuss visions, state of the art and innovations in the field, to disseminate the recent advances, views and perspectives, and thus, to generate a significant impact on the future of manufacturing systems.
Date	16-18 May, 2018
Location	Stockholm (Sweden)
Participating partners	LMS
Presentation (Y/N, title)	Yes, *Automotive Weather Strip Manufacturing: Process Modeling and Dimensional Accuracy Evaluation* (see par. 2.5.2)

Event	**PLAST 2018**
Sector(s)	Product manufacturing services and other services for the plastics and rubber industry.
Description	PLAST, held in Milan every three years, is one of the most important exhibitions for plastics and rubber industry worldwide.
Date	29 May – 1 June, 2018
Location	Milan (Italy)
Participating partners	DAY ONE
Presentation (Y/N, title)	No, visitors (contact with stakeholders and associations)
Event	**CIRP ICME 2018**
Sector(s)	Innovative and Cognitive Production Technology and Systems
Description	CIRP ICME Conference examined the applications of innovative and cognitive production technologies and systems and related methodologies for decision making implementation, including expert systems, fuzzy logic, neural networks, multi agents, etc., as well as hybrid systems combining one or more of these techniques as applied to manufacturing engineering problems.
Date	18-20 July, 2018
Location	Ischia (Italy)
Participating partners	LMS
Presentation (Y/N, title)	Yes, *A Defect Tracking Tool for Products Manufactured by a Process-chain utilizing Modelling* (see par. 2.5.3)
Event	**INDIN 2018 (16TH INTERNATIONAL CONFERENCE OF INDUSTRIAL INFORMATICS)**
Sector(s)	Industrial informatics and applications
Description	An opportunity for researchers, academics and practitioners to gather and present high-quality original research as well as share ideas and experiences surrounding frontier technologies, breakthroughs, innovative solutions, research results, as well as innovation initiatives related to industrial informatics and their applications.
Date	18-20 July, 2018

Location	Porto (Portugal)
Participating partners	ITAINNOVA
Presentation (Y/N, title)	Yes, brief summary of the project and current results.
Event	**ASICE CONFERENCE**
Sector(s)	Automation, robotics
Description	NA
Date	27 September, 2018
Location	Madrid (Spain)
Participating partners	ITAINNOVA
Presentation (Y/N, title)	Yes, *Pasos a dar para la implantacion de la Fabrica Inteligente (Steps towards the introduction of a Smart Factory*)

3.4 Common Dissemination Booster

The **Common Dissemination Booster** (CDB - https://www.trust-itservices.com/common-dissemination-booster) is a free service from the European Commission. The booster encourages projects to come together to identify a common portfolio of results and shows them how best to disseminate to end-users, with an eye on exploitation opportunities.

STREAM-0D is part of the ZDM (Zero-Defects Manufacturing) project cluster (**CDB03-ZDM**) with other EU-funded projects: **Z-fact0r**, **ForZDM** and **Zaero**. Though these projects share the same conceptual background (ZDM production), their specific objectives differ from each other and so do the processes that are involved. Stakeholders profiling and identification proved to be similar as well, but the relevant application industries – and therefore the end-users engaged in the project – are not.

A joint dissemination strategy is currently being discussed by the cluster partners together with **Trust-IT Services**, that provides all Common Dissemination Booster services on behalf of the European Commission. This strategy will leverage on the concept of Zero-Defects Manufacturing, with the purpose of providing visibility to the ZDM cluster of projects and promote the idea that the projects represent different lines of action towards the same goal. Joint dissemination should also foster an increased visibility thanks to a series of shared activities that each project will carry out in order to provide visibility to the others. The possibility to participate to events together, possibly with a shared ZDM booth or through presentations in which the activities of the cluster can be highlighted, is currently under discussion.

4 Section 3: Future activities

Future communication and dissemination activities will aim at strengthening and exploiting the set of tools that have been so far implemented. In parallel with the advancements of the project, more content should be available for dissemination (results, articles, news, reports, etc.) and a clearer view of the project could be therefore communicated. These actions will be divided in two main guidelines:

Strategically, the goal is to create awareness around the project and interact with potential stakeholders, paving the way for the exploitation and commercialization phases. To achieve such a goal, a list of dedicated actions have been identified:

- **Strengthen relationships at an institutional level**. Connections with industrial associations and the advantage of being part of official tools such as the Common Dissemination Booster could provide the project with a powerful set of channels upon which disseminate and communicate. As explained in detail in the document, associations usually rely on enormous sets of private and public contacts and their channels could represent an efficient way to convey messages around the STREAM-0D project. On the other hand, the Common Dissemination Booster – being an official tool made available by the EU Commission – could reveal itself as a driving force to bring awareness around the activities of the project taking advantage of institutional channels. Joint communication and dissemination activities with the ZDM projects cluster will also deliver a broader coverage (for instance in terms of presence during trade fairs, workshops, etc.) and foster the implementation of a common and optimized strategy with reduced effort and a better use of resources.
- **Set up one or more dedicated events**. As STREAM-0D's community and stakeholders base increase and project results will be available, the possibility to organize a dedicated event becomes real. Given the features of the project, events (such as workshops, for instance) could be the right circumstance for partners to discuss their respective task and achievements to a specific and targeted public. Events often prove to receive coverage by media, therefore increasing awareness around the project.
- **Induce a more active collaboration between project partners**. Dissemination activities should be carried out by all project partners. In order to obtain the maximum and more efficient coverage possible, the project consortium – under the coordination of the communication and dissemination manager – will be asked to perform several different actions in line with the ones outlined in this very document. This strategy should generate a multiplier effect in terms of visibility and in terms of potential stakeholders that will get introduced/involved in the project. To better coordinate and plan the activities, specific tools will be designed and/or implemented when necessary.
- **Communicate/disseminate on results**. Soon, substantial project results will be available for dissemination. As already discussed, the 'results' section of the website will be filled with content regarding such advancements. Results are, in general, good content to be used on multiple channels as they can give a tangible example of the objectives of the project and they can also integrated in common dissemination activities within the ZDM cluster of projects. Results represent also the base upon which build presentations and/or produce publications.

- **Increase the number of publications on magazines and/or other kinds of publications**. As soon as the general advancements in the project and new results will be available, more magazines will be involved in the dissemination activities. The goal will be spreading articles on different media at a European level and covering different aspects of the projects. Until now, the focus has been on a general introduction to STREAM-0D, its goals and partners. In the future, articles will include also the project advancements and a focus on technologies, methodologies and achievements. Participation to events is also crucial, as it usually provides project partner with the possibility to make presentations and eventually publish articles on the same event proceedings.
- **Organize partners' participation to events**. Presence to events will be disciplined by a common plan to which partners will be asked to comply. The goal is to ensure a proper coverage of the main events, avoid overlapping, plan a strategy to best communicate/disseminate around the project and attract stakeholders, make an efficient use of project resources.