Grant Agreement No.: 761802

D5.3: Dissemination and exploitation report v2

This deliverable reports on the dissemination and exploitation activities carried out and updates the initial communication plan based on the lessons learned so far.

Work package	WP5
Task	T5.1 Communication plan and outreach
Due date	31/03/2020
Deliverable lead	IN2
Version	1.0
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Keywords	MARCONI, interaction, personalisation, radio, communication strategy, brand identity, channels, target audiences, evaluation, planning

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Nature of the deliverable:	**Report**
Dissemination Level	
PU	Public, fully open, e.g. web

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EXECUTIVE SUMMARY

This document provides an overview of the dissemination and exploitation activities carried out in the MARCONI project. The project used a comprehensive strategy to carry out numerous dissemination and exploitation activities, both digital and physical.

The project website was regularly updated during the project, not only with fresh news about the activities undertaken but also in terms of the structure and general copy. This was done in order to reflect the different goals and objectives the project had at each stage (e.g. reach out to external radio stations and pitch the open pilots during the last phase of the project). Numerous promotional materials were created to accompany the dissemination and exploitation activities: presentations, posters, flyers, technical factsheets, visuals, etc. On social media Twitter was the most used channel but the project made use of existing accounts of partners on Facebook and Linkedin in order to make project-related announcements and reach in this way a bigger audience. The project was also successful in making appearances in popular media and press. In total the project was featured 9 times: in magazines, podcasts, radio, online blogs. We sent also 5 project newsletters to our list of subscribers.

MARCONI was very active in demonstrating the project outcomes at industry events and conferences. In total we presented at 18 events, in some cases together with the HRADIO and FUTUREPULSE projects. Also, all necessary arrangements have been made for the participation to RadioDays Europe 2020 which was postponed to December due to COVID-19. Furthermore, a Webinar demonstrating the results has been prepared and will be carried out on the 7th of May 2020.

The project produced also 13 scientific publications and organised 2 own workshops at reputed scientific conferences. Four further conference papers are planned to be presented after the project's end and one book related to privacy issues will be printed.

MARCONI established early in this lifetime links to related projects like HRADIO, FUTUREPULSE and MEDIAROAD. Regular conferences were organised with these and joint coordinated actions were carried out not only related to dissemination and communication (e.g. joint stands at RadioDays Europe 2019) but also with respect to technology integration.

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ABBREVIATIONS

IPR	Intellectual Property Rights
AI	Artificial Intelligence
SME	Small and medium enterprise
WP	Work Package
AER	Association of European Radios
EBU	European Broadcasting Union
WBU	World Broadcasting Unions
USP	Unique selling point

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1 Introduction

1.1 Purpose of the communication plan

The key to the successful communication activities of MARCONI lies in a clear and targeted communication strategy, using synergies of all the consortium partners' communication channels. The communication plan aims to leverage existing communication channels of the partners and the communities they reach, delivering the project's key messages to different target groups. Finally, it is needed to regularly measure and evaluate the effectiveness of our activities. The main aim of this plan will be to provide an efficient planning of activities, by taking into account:

- Analysis of current situation
- Project and communication objectives
- Overview of audiences
- Key messages to the respective stakeholders
- Communication methods
- Evaluation of the success of the communication strategy

1.2 Background

MARCONI aims to bring radio experiences to the next level, enabling radio to safeguard its strong position in the European media market, while at the same time facilitating innovative ways of radio making. The goal is to enable fully interactive and personalised radio solutions, integrating broadcast radio with digital and social media, amounting to converged radio experiences. To realize this goal, MARCONI will pursue two concrete objectives. First, consumers will be able to interact with "live" radio through their preferred communication channel in ways that are richer than is feasible today, so that consumers feel more connected to the radio brand -even when not listening linearly- and better served in an individual way. Second, radio-makers will be given an integrated view on audience interactions and will be supported by interaction automation services. The net outcome will be enhanced audience engagement.

MARCONI brings together a multidisciplinary consortium to realize its vision. Several partners will focus on AI to automate processing of audio-visuals, text and social media posts. A radio redaction solutions provider is represented in the consortium to guarantee smooth integration in real operational workflows. MARCONI also includes broadcasters which will organise large-scale pilots with their respective communities. Finally, strong industry participation (SMEs and radio stations) ensures that the MARCONI market potential will be properly exploited.

For more details on the motivations, concepts and scenarios underpinning MARCONI, the reader is invited to consult the public deliverables of WP1 available at: https://www.projectmarconi.eu/resources/

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2 Updated communication strategy

Effective internal and external communication are key to the success of a project. Defining and maintaining a clear and ground communication strategy ensure that the project's objectives guide the communication activities. By beginning each communication effort with determining the desired objectives, audiences, messages and outcomes, we are able to select the most relevant communication channels and formats.

With our dissemination activities, we focused on sharing results in order to stimulate engagement from decision-makers and enable follow-up from the industry and scientific communities. Communication activities connect us to our end users, whose involvement and support is key in order to make a difference. The interest and feedback from our users is what drives our progress and increases our market potential. By extent, every user is an ambassador of MARCONI and can help spread our message.

In the later phases of MARCONI, it was important that we make a distinction in the communication efforts for our end users and the general public, and the dissemination activities directed at the European Commission, policy makers, stakeholders, researchers and technology developers. As mentioned in the previous deliverable, it is vital to align our communication strategy to fit our audiences and their needs. In line with the project's oncoming activities and objectives, we focused on communicating the relevant outcomes and corresponding key messages of MARCONI.

2.1 Overall objectives

Whereas in the first year, the focus lay on increasing project awareness by communicating the name and project goals of MARCONI, our communication approach from the second year on was directed to the oncoming open pilots, the corresponding technical advancements and the value for our end users.

In the later phase of the project, the plan communicated the project "to a target group of potentially interested customers and stakeholders especially through physical/offline communication".

2.2 Target audiences

The MARCONI project targets different audiences with specific messages, requiring their own tone of voice and medium. The project offers new radio experiences that have an impact on both the consumer, as the radio maker.

An updated overview of the target audiences is given below:

- Industry, researchers, technology developers
- European Commission, policymakers, related projects
- Radio stations and radio makers

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- Specifically: Southern and Eastern Europe
- Secondarily: Northern and Central Europe
- Including Commercial and independent radio stations

- SMEs, radio solution resellers and integrators
- Press, broader (media) Industry
- General public

2.3 Key messages & channels

As part of our updated communication strategy, we distinguished three specific communication objectives and their corresponding target audiences. In line with these objectives and audiences, we are able to evaluate fitting communication channels and key messages, which in turn enable us to create the right content. In communicating our messages, we continue to keep in mind the expectations and needs or our target audiences.

The project focuses on personalisation and interaction, and our communication efforts have to reflect the same message. Therefore, we published interviews and pictures of consortium members on our website and Twitter page, focusing on the voice and faces behind the project. We moved our strategy from project awareness to engagement, and therefore focused on communicating a working product and its value for direct users and customers. Other important communication efforts included informing on the underlying technical processes as part of dissemination and communicating the potential of the services and our European collaboration to the larger public.

In the following table, we give an overview of these three communication objectives and the corresponding target audiences, channels and key messages.

Target audience	Channel	Key message(s)
Objective 1: disseminating results		
Industry, researchers, technology developers	Industry-specific events (see Section 3.1.6), website, newsletters	- Technical progress: automated processing of audiovisuals, text and social media posts, integration in operational workflow - User insights
European Commission, policymakers, related projects		
Objective 2: communicating open piloting phase		

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Radio stations and radio makers SMEs, radio solution resellers and integrators	Direct contact via consortium network Mailing to ambassadors: - Radio stakeholder groups and associations (e.g. AER, EBU, WBU) - VRT Sandbox Commercial events (conferences, trade shows) Website Newsletters Social media	- USP, MARCONI provides radio makers with an integrated view on audience interactions, supporting them with interaction automation services - MARCONI calls for industry participation and organises large-scale open pilots
Objective 3: communicating value		
Press, broader (media) industry	Twitter, press releases, Marconi website	MARCONI brings radio experiences to the next level, enabling radio to maintain a strong position in the European media market and facilitating innovative ways of radio making
General public (end users)		MARCONI delivers enhanced and interactive listener experiences

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3 Activities carried out

In this Chapter we provide an update to D5.3_v1 on the information on dissemination and communication activities of the project. In the table below we give an overview of the different activities and in each of the sections we provide more detailed information.

Start Date	End Date	Type	What	Where
17/10/2017	17/10/2017	Participation in activities organized jointly with other H2020 projects	H2020 Media Projects Workshop: Collaboration Towards the Future of Media	Brussels
07/03/2018	07/03/2018	Participation to a Conference	JOANNEUM RESEARCH Zukunftskonferenz	Graz, AT
18/03/2018	20/03/2018	Trade Fair	Radio Days Europe	Vienna
05/06/2018	07/06/2018	Participation to a Workshop	Presentation "FIMS for On-premise and Cloud-based Automatic Metadata Extraction" at EBU Metadata Developer Network Workshop	Geneva, CH
27/06/2018	28/06/2018	Participation to a Conference	Presentation of Work-in-progress on MARCONI	Seoul, South Korea
30/08/2018	30/08/2018	Trade Fair	Swiss Radio Day	Zurich, CH
04/09/2018	06/09/2018	Participation to a Conference	Presentation of 2 MARCONI-related publications at Conference on Content-based Multimedia Indexing	La Rochelle, FR
13/09/2018	13/09/2018	Participation to a Conference	NGI Forum (presentation during parallel session)	Porto, PT
14/09/2018	18/09/2018	Trade Fair	IBC2018	Amsterdam, the Netherlands
17/10/2018	18/10/2018	Participation to a Conference	Lift Conference (30 min presentation in the programme)	Helsinki, FI
22/10/2018	22/10/2018	Training	Tutorial at ACM Multimedia: Interactive Video Search: Where is the User in the Age of Deep Learning?	Seoul, KR
06/11/2018	07/11/2018	Participation to a Conference	WorldDAB General Assembly 2018	Berlin, DE
04/12/2018	06/12/2018	Participation to a Conference	ICT2018	Vienna, AT
14/12/2018	14/12/2018	Participation to a Conference	MediaFastForward 2018	Brussels, Be
08/01/2019	11/01/2019	Participation to a Conference	International Multimedia Modeling Conference (MMM)	Thessaloniki, GR
24/01/2019	26/01/2019	Trade Fair	Salon de la Radio 2019	Paris, FR
21/02/2019	23/03/2019	Participation to a Conference	Presentation and Article "Legal Issues of User Engagement in Interactive Radio Stations" at the International Legal Informatics Symposion 2019 (IRIS)	Salzburg, AT
17/03/2019	21/03/2019	Participation to a Conference	NVIDIA GPU Technology Conference	San Jose, CA, USA
31/03/2019	02/04/2019	Trade Fair	Radio Days Europe 2019	Lausanne, Switzerland
06/04/2019	11/04/2019	Trade Fair	NAB2019	Las Vegas, USA
22/05/2019	23/05/2019	Exhibition	NEM Summit 2019	Zagreb, Croatia
05/06/2019	07/06/2019	Participation to a Conference	ACM Conference on Interactive Experiences for TV and Online Video	Salford, UK
05/06/2019	05/06/2019	Organisation of a Workshop	Workshop on Interactive Radio Experiences, ACM TVX 2019	Salford, UK
10/06/2019	15/06/2019	Organisation of a Workshop	Workshop on On-device Machine Learning and Compact Deep Neural Networks (at International Conference on Marchine Learning)	Long Beach, CA, USA
11/06/2019	13/06/2019	Participation to a Conference	ACM ICMR 2019	Ottawa, Canada
02/09/2019	06/09/2019	Participation to a Conference	INTERACT 2019	Paphos, Cyprus
04/09/2019	06/09/2019	Participation to a Conference	Conference on Content-based Multimedia Indexing	Dublin, IE
13/09/2019	17/09/2019	Trade Fair	IBC2019	Amsterdam, the Netherlands
21/10/2019	25/10/2019	Participation to a Conference	ACM Multimedia 2019	Nice, France
22/10/2019	25/10/2019	Participation to a Conference	FIAT/IFTA World Conference	Dubrovnik, Croatia
25/11/2019		Participation to a Conference	Radio TechCon 2019	London, UK
29/11/2019	30/11/2019	Participation to a Conference	"Cyberspace" Conference Organized by the Faculty of Law Masaryk University and European Academy of Law and ICT.	Brno, CZ
01/12/2019		Non-scientific and non-peer-reviewed publication (popularised publication)	MARCONI article in Research*eu Magazine, Issue 88	
01/12/2019		Non-scientific and non-peer-reviewed publication (popularised publication)	RADIO World Magazine feature	
09/12/2019	11/12/2019	Participation to a Conference	21st IEEE International Symposium on Multimedia	San Diego, CA, USA
12/12/2019	12/12/2019	Exhibition	Media Fast Forward 2019	
08/01/2020	11/01/2020	Participation to a Conference	International Multimedia Modeling Conference (MMM)	Daejeon, KR
22/01/2020	24/01/2020	Trade Fair	Salon de la Radio 2020	
01/02/2020		Other	Article "Interactive Video Retrieval in the Age of Deep Learning - Detailed Evaluation of VBS 2019" in IEEE Transactions on Multimedia	n/a
12/02/2020	12/02/2020	Participation to a Conference	EBU Digital Radio Summit 2020	Geneva, Switzerland
27/02/2020	29/02/2020	Participation to a Conference	Presentation "Privacy-friendly Data Management" at the International Legal Informatics Symposion 2020 (IRIS)	Salzburg, AT
01/05/2020		Non-scientific and non-peer-reviewed publication (popularised publication)	Article "MARCONI - KI unterstützt Radioproduktion" in FKT Magazin	DE
07/05/2020	07.05/2020	Pitch Event	Webinar "MARCONI Showcase - Practical insights to interact with your radio audience in an ever changing media market"	Online
01/06/2020		Non-scientific and non-peer-reviewed publication (popularised publication)	EBU Tech-I magazine	
14/06/2020	19/06/2020	Organisation of a Workshop	Workshop on Efficient Deep Learning for Computer Vision (at IEEE Conference on Computer Vision and Pattern Recognition)	Seattle, WA, USA [ONLINE]
06/07/2020	10/07/2020	Organisation of a Workshop	1st International Workshop on Interactive Multimedia Retrieval (at IEEE International Conference on Multimedia and Expo)	London, UK [ONLINE]
17/09/2020	18/09/2020	Participation to a Workshop	Presentation "Few-shot Object Detection Using Online Random Forests" at the Joint Austrian Computer Vision and Robotics Workshop 2020 (ACVRW)	Graz, AT
12/10/2020	16/10/2020	Other	Paper "Stay Tuned!: Content Substitution, the Listener as Curator, and Other Potential Innovations in Broadcast Radio", submitted for review to ACM Multimedia 2020	Seattle, WA, USA
13/12/2020	15/12/2020	Trade Fair	Radio Days Europe 2020	Lisbon, Portugal

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3.1.1 WEBSITE

The official website of the MARCONI project can be found at the following link: https://www.projectmarconi.eu

The design of the website corresponds with the overall brand identity of the project. The grey visuals used on the website complement the modern look with a "retro" feel and were implemented because of the project's name, that refers to Guglielmo Marconi, one of the inventors of radio. With this touch of nostalgia, the project aims to reflect the message that radio, both personalised and interactive, truly is for every one of every generation.

During the last period of the project the website has been re-designed in order to cater for two distinct types of stakeholders: those interested primarily in piloting and testing out the MARCONI platform, and those that are interested to learn more about the project itself. For the first group of stakeholders we have thus prepared a more streamlined homepage, where the focus is on the benefits of MARCONI and hinting at the exploitation aspects of the platform.

Thus when visitors reach https://www.projectmarconi.eu they can choose to "Explore the toolkit" (i.e. learn about the benefits and how they can use and pilot the MARCONI platform) or "Meet the project" (i.e. learn more about the project itself, get the latest news and explore the various resources).

The "Explore the toolkit" section offers the following categories and content:

- "Why join the open pilots": Section describing the business benefits of MARCONI for stations willing to join the Open Piloting phase
- "What can you expect": Section giving an overview of the types of services that MARCONI offers and provides video testimonials from radio station pilots already carried out.
- "How you can join": Section describing the process of how to get started with a MARCONI open pilot

The "Meet the project" section offers the following categories and content:

- **Home**: A landing page for the project. It gives the user the possibility to choose between "Exploring the toolkit" and "Meeting the project"

- **Open pilots:** link to the "Explore the toolkit" section described above

- **News**: this section offers blog posts about the project. Among others, these include our interviews with the team, reports of events, results, updates on work packages and project progress. The section is organised as a blog, with each news item showing the title and synopsis, while the full content of the article can be accessed when the user clicks on the "Read more" button. Since there are over 35 articles part of the news, the page was modified to include an easy way to access the content. This is done through a sidebar that shows the different categories of the articles (e.g. "Announcement", "Event", "Interview", etc) and thus gives the user more structure when browsing the existing content.

- **About the project**:

  ➔ Vision: description of the project's vision

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- ➔ The consortium: logos and links of the project partners; here, changes were done to reflect the addition of Faktion and the leaving of Stadtfilter
- ➔ Work packages: overview & short description of work packages as well as links to download the public deliverables
- ➔ Scenarios: an overview of the different scenarios elaborated within the WP1 activities, with links to more information about each of them.
- ➔ Privacy by Design: a description of the privacy preserving approach of MARCONI
- ➔ Dissemination materials: Overview of different dissemination resources produced, such as posters, presentations, videos, as well the the scientific dissemination papers and the newsletters

- **Promotion:** In this section the visitors can access the different materials promoting the project
  - Slide deck
  - Social Media Visuals
  - Flyer
  - Technical Factsheet
  - Video testimonials
- **Calendar**: overview of upcoming events & activities
- **Contact:** Contact info of project and communications coordinator

The footer of each page of the website contains a link to the twitter account of the project, a call to action for visitors to subscribe to the MARCONI newsletter as well as the acknowledgement of the received European funding.

We attract visitors by linking posts on social media to our website and vice versa. In addition, by posting and linking to MARCONI on existing communication channels of the consortium, we are able to draw interested visitors to our website. Best practices for SEO will be used in order to make sure that the website is among the first ones retrieved by Google for searches that relate to the main keywords of the project (i.e. interactive personalised radio experiences).

The website of MARCONI website has had over 5,800 unique visitors and over 13,700 page views. The graphs below show the type of device used by the visitors and the way they reached the website. It can be noticed that almost a quarter of all visits were done on mobile devices, which validates our focus on providing a website that is user friendly on all devices. We also notice that about half of all visitors came to the website directly, while Google provided almost a third of all traffic.

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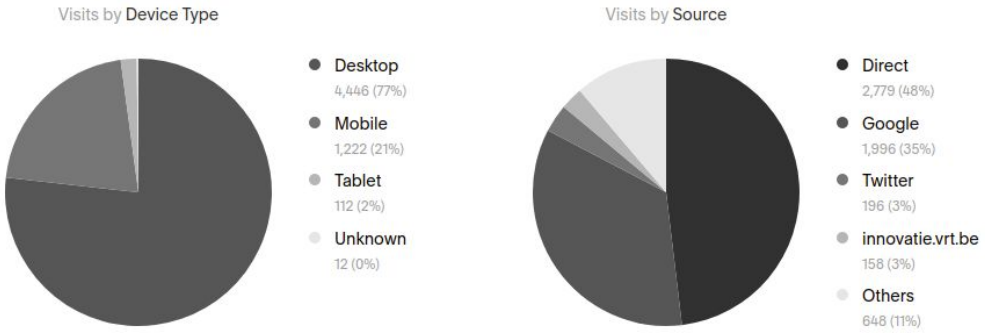

3.1.2 PROMOTIONAL MATERIAL

A first project poster, flyer and video were created in the first months of the project (see blow).

Towards the end of the period, further flyers were prepared. The goal of these additional flyers was to provide more information about the project, by giving insights into the use cases and scenarios that will be tackled in MARCONi (outputs of WP1 activities).

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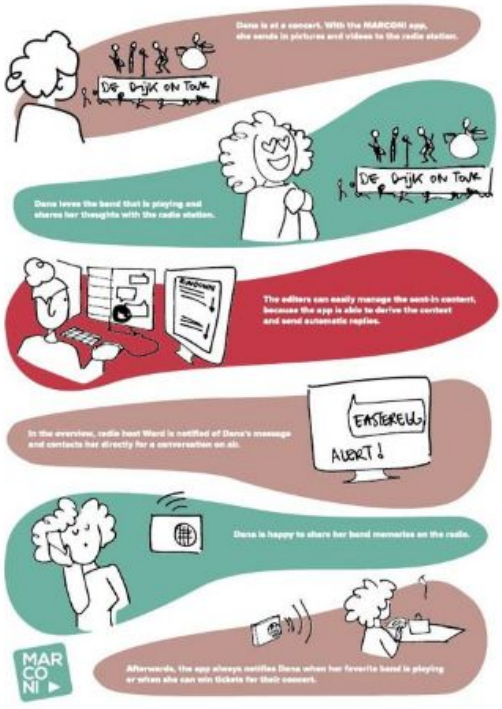
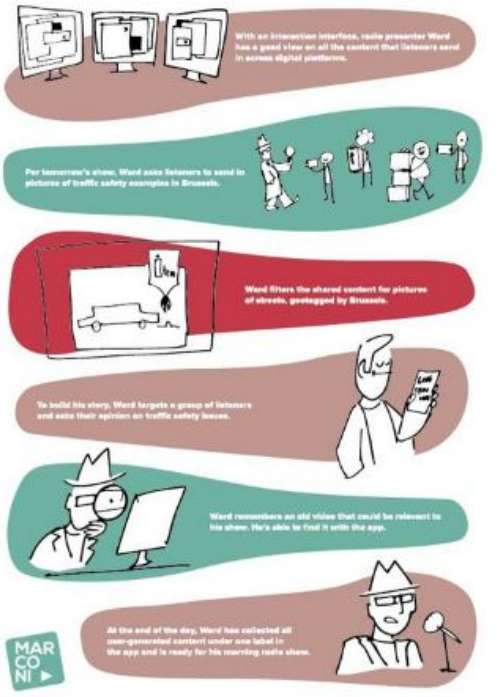
POSTCARD - FEEDBACK FROM THE LISTENER



POSTCARD - CO-CREATING CONTENT



The flyers were designed in a postcard format in order to make it easy to share them physically, and had a catchy graphic design in order to stir interest. The call to action of these flyers is aimed at getting stakeholders to sign up to the MARCONI newsletter and get involved in the open piloting activities later on.

As the project participated in further industry events, like the IBC trade fair, new flyers were prepared. The communication team prepared the flyer by first identifying the critical objective of each material prepared and then deciding on the call to action and message. Below we showcase the more general flyer of the project and the flyer prepared in preparation for the IBC event, where MARCONI had a joint stand with the HRADIO project.

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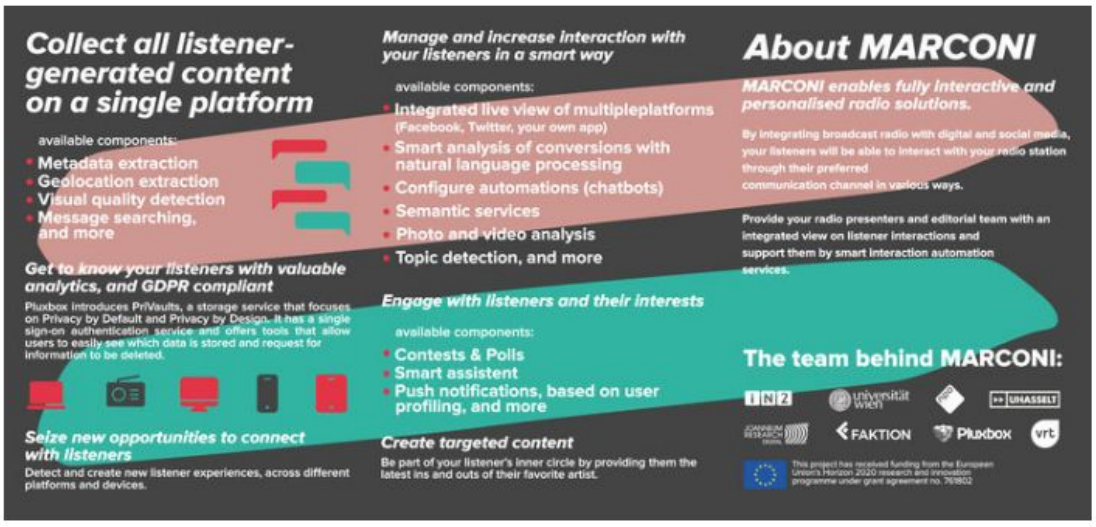

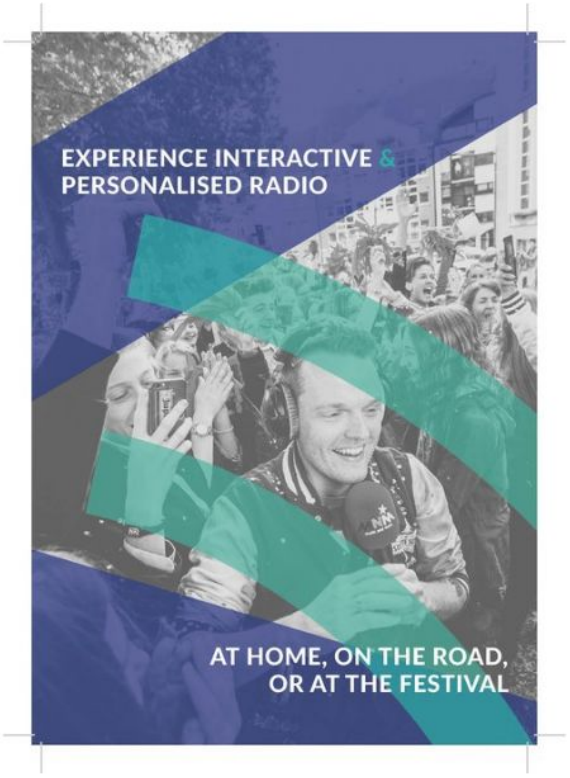

A number of visuals (optimised for the different channels like Linkedin, Twitter, Facebook, etc) were created in order to announce the participation of MARCONI at events. These can be downloaded from: https://www.slideshare.net/secret/FGNgd3UOPUyTx

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Twitter

LinkedIn

Following the recommendations of the first review we prepared technical factsheets which provide a more detailed overview of the technologies and technical capabilities of MARCONI, complementing thus the other more business-oriented materials. The following technical factsheets can be accessed at https://www.projectmarconi.eu/promotion:

- Automatic Multimedia Analysis Services
- Conversational Services
- Privaults

An initial video was produced as a short teaser for the project. The aim was to draw interest with a simple message and communicate it directly through both visual and audio. The video is also available on Youtube[1], and is also shared on the official playlist of the EU Science and Innovation[2] (and took part in the competition for best project videos).

As the project advanced and the MARCONI pilots developed we have produced additional videos in the format of a video testimonial, in order to present the pilot and explain how MARCONI was used in each particular case:

- MARCONI pilot at Music for Life - through the eyes of Studio Brussel[3]
- MARCONI pilot at Music for Life - through the eyes of a campaigner[4]
- The chatbot - a MARCONI pilot for NPO Radio 5[5]
- Audio to go - a MARCONI pilot for NPO Radio 1[6]
- NPO Studio Messenger 2.0 - a MARCONI product[7]

[1] https://youtu.be/swQQIW_57Uw
[2] https://www.youtube.com/playlist?list=PLvpwljZTs-LjHDvRTqlyjfLeflXDak5er
[3] https://www.youtube.com/watch?v=zXSPVWO8eL0
[4] https://www.youtube.com/watch?v=0XDbYj811EE
[5] https://www.youtube.com/watch?v=7dWgyGw1kII
[6] https://www.youtube.com/watch?v=yOAvoLJEVf4
[7] https://www.youtube.com/watch?v=_c0kwEXNCfk

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- MARCONI - demo shown at ICT 2018[8]

The poster for the general audience of MARCONI has been re-designed prior to our participation at the ICT2018 event, where the project had a booth. The aim of the new poster (See Annex 4) was to transmit the main message of the project in a visual way that is easy to read and recognise even from far away, and to stir the interest of event attendees to stop and talk to the team members, who would then explain the project in more detail.

Apart from the general poster, two further posters were prepared for the participation at scientific conferences. These focused on certain aspects of the project (see Annex 4).

A presentation of the MARCONI platform targeted for radio stations with the goal to entice them to participate in the open pilots has been created and is available on Slideshare[9].

All materials are publicly accessible from the project website.

3.1.3 Social media

MARCONI has set up a Twitter channel for its dissemination and communication activities, which can be found under the handle @MARCONI_EU. Twitter is a fitting channel to steadily grow engagement with our audience. It enables content with a specific hashtag to be easily found by interested audiences and fits the conversational approach of the project, as you can drive engagement and interaction.

The Twitter account has over 140 followers and received about 7000 monthly impressions during the last year.

At the time of writing this deliverable the Twitter account of MARCONI has 55 Tweets and 101 Followers. The analytics show that this has generated over 40000 impressions.

In addition, we took full advantage of the extensive social networks that are already in existence within the consortium. This was done by involving the responsible persons for social media in the partner organisations, and working with them to link and involve the MARCONI social media presence with their social media activities. In this way MARCONI news and announcements were disseminated on Facebook and Linkedin as well.

3.1.4 Press release & interviews & Popular Media

During the first year MARCONI was mentioned twice in the press: an article in the Belgian newspaper De Tijd[10] and an interview in the De Radio podcast[11] (see Annex 2 for clippings).

An article about MARCONI was published in the Research*eu Magazine, Issue 88 December 2019 / January 2020[12]. The article highlighted the main outcomes of the project and can be accessed online[13] or in print (see Annex 2).

[8] https://www.youtube.com/watch?v=g006KnYXaNA
[9] https://www.slideshare.net/NikkiPeeters/marconi-open-pilots-pitch
[10] https://www.tijd.be/dossier/krant/eu-trekt-4-1-miljoen-uit-voor-innovatie-bij-vrt/9903679.html
[11] http://deradiopodcast.nl/nieuws/podcast-11-marconi-project-met-dennis-laupman/
[12] https://cordis.europa.eu/article/id/413279-growing-power-of-media-content-onvergence-watching-tv-has-never-been-so-exciting
[13] https://cordis.europa.eu/article/id/411710-greater-interaction-tools-for-next-gen-radio-shows

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Another MARCONI article entitled “Pump up the volume? Bringing radio stations closer to their listeners”[14] has also been published on Cordis.

After the IBC2019 participation the project has been picked up by an independent journalist and blogger. MARCONI was top in the list of “Most impressive booths at IBC2019”[15].

The RADIO World Magazine has featured MARCONI in December 2019[16].

Through the participation at Salon de la Radio 2020, we got interviewed by AlternativeFM.fr. You can listen to the audio clip in our blog post:
https://www.projectmarconi.eu/blog/2020/2/10/marconi-at-salon-de-la-radio-2020

A MARCONI article "MARCONI - KI unterstützt Radioproduktion" is scheduled to be published in the Mai 2020 issue of the FKT Magazine[17]. FKT is for the German speaking professional broadcast and media world an established publication for receiving the latest news and trends about the technologies impacting the broadcast and media sector. The FKT appears in eight editions throughout the year, which are supplemented by two double editions. The booklet is usually around 50 pages long. The members of the FKTG receive the magazine automatically and additionally anyone interested can purchase a digital copy. The FKT has also a limited print run. The article of MARCONI explained in detail the technical components, especially the AI and ML technologies used (see full article in Annex 2).

Furthermore a MARCONI article was prepared, submitted and accepted to be published in the next edition of the EBU Tech-I magazine[18]. The article describes the activities of the Hackweek and one of the NPO pilots.

3.1.5 Newsletter

While updates about MARCONI have been included in the corporate newsletters of each of the consortium partners, the project issues its own newsletter as well. In Annex 3 all of the newsletters can be seen.

A first newsletter was sent out on the 7th of August 2018 to the stakeholders that expressed explicit interest in staying up to date with the project (64 subscribers). The newsletter contained an introduction to the project and information about the main scenarios and use cases (the main outcomes of the project after the first months of the project). It also informed the readers about the upcoming events where the project will be presented.

A second newsletter was sent out on the 3rd of December 2018. It contained information about the booth of the project at the ICT2018 event and it also informed the stakeholders about the current piloting plans, describing in detail the pilots carried out with NPO and VRT. Finally, it encouraged the readers to contact the project if they would like to be part of the open piloting activities and indicated the upcoming events where MARCONI will be presented and the consortium members can be met in person.

14 https://cordis.europa.eu/article/id/413422-pump-up-the-volume-bringing-radio-stations-closer-to-their-listeners
15 https://www.chegroom.com/blog/most-impressive-booths-ibc2019/
16 https://www.radioworld.com/news-and-business/project-marconi-brings-stations-closer-to-listeners
17 https://www.fkt-online.de/archiv/ausgabe/
18 https://tech.ebu.ch/publications?categoryFilter=tech-i

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A third newsletter has been sent out in August 2019. It promoted the stand of MARCONI at IBC2019. Moreover it aimed to attract open pilot participants giving more information on the benefits of using MARCONI.

Following the IBC we have sent a special issue newsletter only to the visitors of the stand, thanking them for their visit and reminding them of what they saw and how they can join the MARCONI open piloting phase.

A final newsletter has been sent at the end of the project. While originally the newsletter was designed to announce the participation at RadioDays Europe 2020 (originally scheduled for Lisbon at the end of March), the COVID-19 pandemic and the subsequent postponements of the industry fairs has led to the newsletter being delayed and redesigned. In its final form it focused on the digital event organised by MARCONI as a substitute for the demonstration event planned during the RadioDays Europe.

3.1.6 Events

The partners in MARCONI participated in many relevant events in order to disseminate the output of the project to the relevant stakeholder community, including potential customers of the system.

Zukunftskonferenz, 7 March 2018

MARCONI was presented as a featured project at JOANNEUM RESEARCH's Zukunftskonferenz in March 2018. This event is JRS' annual conference from their stakeholders from industry, academia and the public sector, attracting around 500 visitors.

AER RadioDays Europe, 18-20 March 2018

Radiodays Europe is the meeting point for the world of radio and audio, taking place from the 17th till the 19th of March in Vienna. It was organised for the first time in 2010, as a response to the needs of the European industry, public and private, to come together and discuss the new media challenges, across borders.

Ever since, the event has grown into the most important annual conference for radio professionals, with nearly 1500 participants from 62 countries. It is the meeting point for the European radio industry, both private and public, and a destination for radio people from around the world.

During a workshop organised by AER, in collaboration with the MediaRoad project, Mike Matton gave a presentation, with Pluxbox as the meeting point for more information. The audience mainly consisted of AER members, but was open to any interested Radiodays Europe visitor. The presentation summarized the main objectives of MARCONI and explained the concept of the open calls. It included a call to action to subscribe on the MARCONI website. This resulted in several interesting discussions during and after the event. The presentation is also shared on the website of the MediaRoad project[19].

[19] http://www.mediaroad.eu/wp-content/uploads/2018/03/2-AER_MediaRoad_rde18_MARCONI_MikeMatton.pdf

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Moreover, at the event PLUX had a stand where visitors could get MARCONI flyers and ask questions about the project.

Swiss Radio Day, 30 August, 2018

Through SFilter, the project was presented at the Swiss Radio Day (Zurich, 30 August, 2018), which is the biggest event for the radio industry in Switzerland.

NGI Forum, 13 September 2018

The NGI forum is the annual event where the Next Generation Internet (NGI) community gathers to talk with peers and exchange insights. The NGI brings together some of Europe's top internet innovators, researchers and policymakers that are shaping the internet of tomorrow. This second edition of the NGI forum took place in Porto, Portugal, on the 13th of September, and attracted more than 300 registered attendees and 26 speakers.

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One of the speakers was Alexandru Stan of IN2, who was involved in the parallel session "Better search for trustworthy content and objects discovery". Alexandru presented MARCONI at the start of the session and then moderated a discussion about (SME perspectives for) trustworthy search and content discovery, which is also one of the challenges tackled in MARCONI. More details about the session and its outcomes can be accessed on the NGI website.

IBC2018, 14-18 September 2018

Boasting over 57,000 visitors at its 2018 edition, IBC is one of the world's leading media, entertainment and technology shows.

Our colleagues from Pluxbox, who lead the technical integration activities in MARCONI, actively participated in this edition of IBC and had a booth in the exhibition area of the event. Here, they showcased RadioManager, their flagship product for radio stations, and the latest developments that they are working on: the MARCONI project. Throughout the many discussions and one-to-one interactions that took place during the five days of the event, the

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initial project results were disseminated to the core target stakeholders and informal feedback was gathered. Overall, the experience was very positive and confirmed the industry's interest in the interactive radio solutions that MARCONI will be piloting the following months.

LIFT HELSINKI, 17-18 OCTOBER 2018

LIFT Helsinki is an event and forum targeted at the media, arts and culture professionals and otherwise. LIFT invites participants to break the barriers between arts and media, encouraging them to find new partners and create networks.

Mike Matton of VRT was one of the speakers at the conference in the main programme, having a 30 minute presentation on the Wall of Moments application and the MARCONI project.

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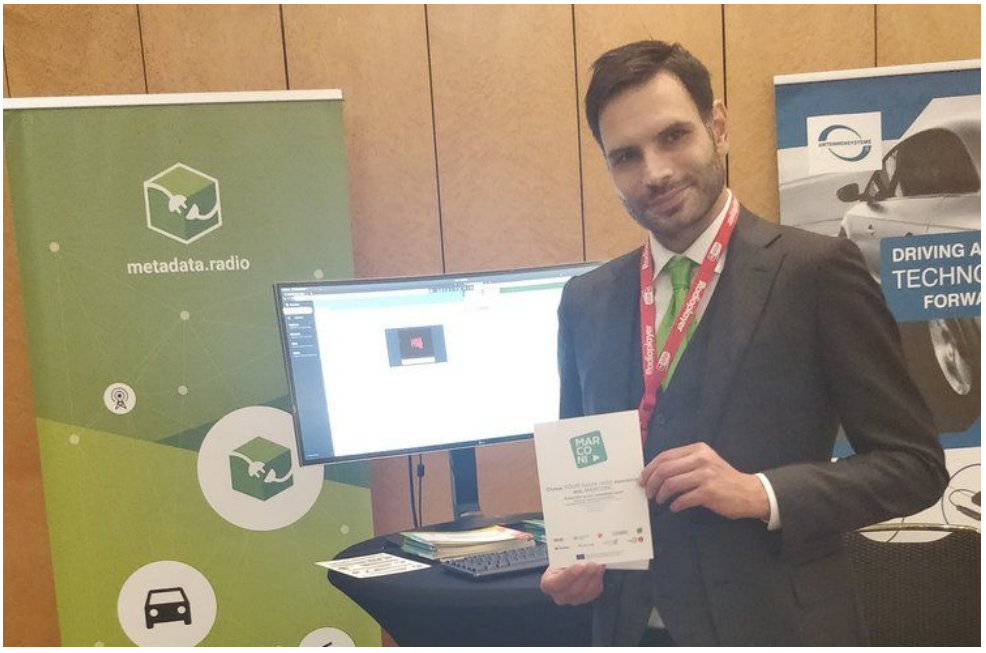
WorldDAB General Assembly, 6-7 November 2018

The WorldDAB General Assembly 2018 was held in Berlin on the 6th and 7th of November. It brought together more than 200 experts across the broadcast, automotive and receiver manufacturer industries to discuss the future of DAB+ digital radio.

The MARCONI project was represented there thanks to Pluxbox who had a booth at this event and discussed the future of radio with the professionals attending. It was an opportunity to show MARCONI demos and give handouts to members of WorldDAB and DAB enthusiasts.



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ICT2018 Imagine Digital - Connect Europe, 4-6 December 2018

ICT2018, Imagine Digital - Connect Europe, is the bi-annual research and innovation event by the European Commission that focuses on the European Union's priorities in the digital transformation of society and industry. The event boasts a rich programme and an exhibition area showcasing the most innovative research projects that are currently being funded by Horizon2020. The participants are mainly industry and research stakeholders that have an active interest in the European research agenda, as well as policy makers and press. This year's event was held in Vienna and boasted over 4800 visitors.

Following an application process, MARCONI was selected as one of the projects invited to exhibit at the event. We presented there the pilots that the NPO and VRT were currently preparing. This was done on a large screen and with the help of tables. The consortium members provided then the visitors with additional information about the technical aspects. Due to the vicinity of our booth with that of HRadio, one of the videos that were presented on one of the big screens was exemplifying the way in which technologies from both projects can be used in together.

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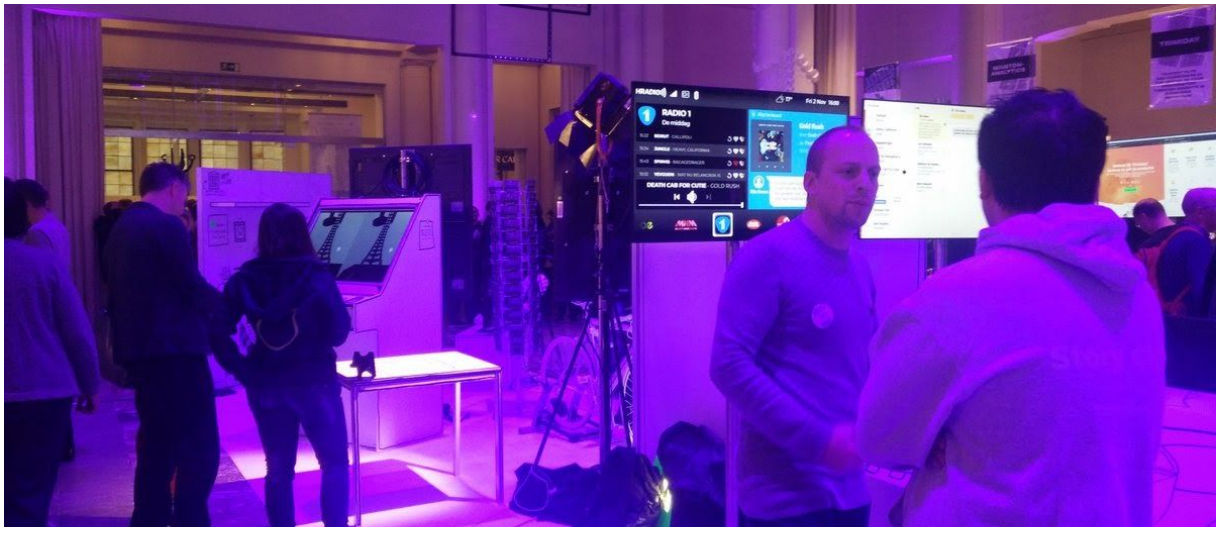
Media Fast Forward, 14th December 2018

MARCONI was one of the VRT projects showcased on the Innovation Street of the Media Fast Forward conference, a yearly networking and inspiration event about the future of media. The event attracted more than a 1000 media professionals, researchers, entrepreneurs and innovators. The exhibition area was in the center of the venue, having great exposure.

The visitors could see a video of MARCONI showcasing how the functionalities of the platform can be used together with the hybrid radio technologies (developed within the HRadio project) in order to create new interaction modalities between radio makers and listeners.



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Salon De la Radio 2019, 24th - 25th January 2019

From the 24th till the 26th of January, the Salon de la Radio took place in Paris. The European radio show undoubtedly marks the middle of the radio season. During these three days, several presentations, lectures, meetings, workshops and demos celebrated radio in the historical building Grande Halle de la Villette. Together with HRADIO and FuturePulse, MARCONI organised a booth on the future of radio, showcasing different prototypes that support interaction with the listener.

At the booth, visitors were able to test demos of the different projects while being informed on the cohesion between them. While the MARCONI project focused on the value for radiomakers by showcasing the functionalities of the editorial tool built on top of RadioManager, the HRADIO project demonstrated the features of hybrid radio, such as timeshifting and cross-device, with a demo built by IRT and a car dashboard simulated by VRT. The focus for MARCONI lied on generating interest among radio stations to test the platform during the open pilots. The third project, FuturePulse, aims to help music companies leverage a variety of music data and content, through sophisticated analytics and predictive modelling services, to make music distribution more effective and profitable.

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RADIODAYS EUROPE 2019, 31ST MARCH - 2ND APRIL 2019

From the 31st of March till the 2nd of April, MARCONI was present at Radiodays Europe in Lausanne to showcase the platform and its components for the open pilots. Radiodays Europe is born as a response to the needs of the European industry, public and private, to come together to discuss the new media challenges, across borders. It has since grown to become the most important annual conference for radio professionals. At the event, MARCONI and the project HRADIO had a joint booth at the exhibition and were also presented during the conference.

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Booth G4, Garden Level, that was the place to be at Radiodays Europe. At the HRADIO and MARCONI booth, visitors were able to experience how MARCONI and HRADIO push radio forward, into a more interactive and hybrid world. MARCONI called all radio stations to come and explore the different MARCONI components that support and increase listener interaction. Visitors were able to find out more on the MARCONI single service-driven platform, its privacy by design approach and the diverse microservices to stay at the heart of the audience, using AI-powered chatbots and content analysis (visual, social, text).

At the same time, HRADIO offered visitors the chance to explore different hybrid radio use cases on receiver implementations for car and mobile clients. By combining IP and broadcast signals, new radio experiences are offered such as station recommendation, time shifting and music substitution.

Because of the coherence and mutual reinforcement among MARCONI and HRADIO, a joint booth was an apparent choice. During the sessions, the exhibition was less crowded and offered the chance to exchange information on use cases, as well as technical and exploitation opportunities among the two projects. Several concrete plans were made, among which the decision to use the MARCONI platform for the HRADIO applications.

On Monday, Floris Daelemans, radio presenter and producer for consortium partner VRT, presented both HRADIO and MARCONI at the conference. In his presentation, Floris gave an

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overview on the projects' objectives, insights and results. Among others, he spoke about the saving and collecting of user profiles according to the privacy by design principle, as well as improving engagement by means of the MARCONI messaging platform, which raised a lot of interest.

Already on Sunday, MARCONI and HRADIO were presented during a special focus workshop, hosted by AER. The AER Special Focus Workshop explored, in a series of three sessions, the most recent innovations driving the change in the radio industry: from the latest developments of hybrid technology for radio to 5G for broadcasting and how it works. This Special Focus Workshop was organised by the AER – the Association of European Radios within the framework of MediaRoad, the EU-funded project aimed at helping Europe's media sector revamp the way it approaches innovation by shaping future research and policy priorities as well as by strengthening collaboration between media organizations and start-ups.

Radio Hack Europe 2019 was a 48-hour hackathon around the theme "Radio and media of tomorrow", which took place before RDE on the EPFL campus, with the support of the MediaRoad project and the IMI. The event was intended for anyone interested in shaping the future of radio in Europe, and brought together media professionals, entrepreneurs, researchers and students, as well as people who had an interest or curiosity in media and innovation to build a prototype in two days. At the end, each team had to give an elevator pitch of 3 minutes in front of a jury. The winners were VRT colleague Sebastiaan Jansen and 4 other students from EFPL. They were able to build RadioAct, a platform to bring the interactivity of social media directly to existing radio platforms. When sending out a poll, you

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would receive live feedback directly in your editorial tools. Congratulations to the team of RadioAct!

NAB 2019, 6TH APRIL - 11TH APRIL 2019

From the 6th till the 11th of April, the annual trade show produced by the National Association of Broadcasters (NAB) took place in Las Vegas, USA. The show's tagline is "Where Content Comes to Life". NAB show is the largest show for media, entertainment and technology. The NAB shows covers: broadcast TV, radio, production, post production, news gathering, streaming, cable TV, satellite TV, film restoration, data storage, data management, weather forecasting, industrial TV, FX, CGI, connected media, cyber security and more. NAB Show is the ultimate marketplace for digital media and entertainment. At the event, MARCONI had a booth to showcase its interactive and personalised radio solutions.

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NEM Summit 2019, 22nd - 23rd of May 2019

The NEM Initiative, the New European Media Technology Platform, held its 11th edition of the main annual conference NEM Summit 2019 in Zagreb, from the 22nd to 23rd of May, 2019. The conference addressed many of today's hot topics related to the Smart Content by Smart Creators. The rich conference programme was supplemented by an exhibition area, where research and innovation projects under programmes of the European Commission and other public authorities, including SMEs and creative industries, and research/academic organisations demonstrated their recent achievements in the areas of the future digital media experiences.

MARCONI participated at the event, with several partners of the consortium being also part of the Steering Board of NEM. Moreover, a MARCONI stand was set up in the exhibition area and we showcased the results of the first MARCONI pilots to different stakeholders, and announced the future plans for the open pilots, where external radio stations can use the MARCONI platform for their very own scenario.

IBC2019, 13th - 17th September 2019

From the 13th till the 17th of September, MARCONI and HRADIO had a joint stand in the Future Zone of IBC. For MARCONI, we showcased our customised software tools to increase and automatise listener interaction. HRADIO then enabled hybrid listening experiences, seamlessly combining linear broadcasts with on-demand content. Together, the projects let IBC visitors experience interactive and personalised radio, at home, on the road, or at the festival, in a stand that was uniquely designed for the experience. We were able to welcome many visitors and radio stations that are interested in joining our open pilots.

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In a live demo at the Future Zone stand, MARCONI showcased the driving technologies behind the project: different software tools integrated in a dashboard that help radio stations stay at the centre of their audience, using AI-powered chatbots and content analysis. Visitors were able to take the place of a radio presenter and experience how a radio station can manage and increase listener engagement with the interaction tools from MARCONI. They were able to start jingles and engage with listener content by replying to listener messages, dragging and dropping them into the radio show program, and showing their footage as part of a lively environment on a screen on the other side of the stand. Moreover, they could search through listener-generated content, sent in via the HRADIO app, in order to build a radio show by and for listeners. With a festival-like experience at the stand, MARCONI showcased how it can create interactive and personalised radio experiences that immerse listeners in their broadcasts, from wherever they are listening.

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As part of the conference, Rik Bauwens from VRT also presented the paper 'Marconi: Towards an integrated, intelligent radio production platform', co-written by Sandy Claes, as part of the tech talk on new tools that support radio stations in creating interactive and personalised listener experiences. You are able to watch the presentation and interview afterwards on the follow links:

- Presentation 'Marconi: Towards an integrated, intelligent radio production platform'
- Interview on IBC TV

Radio TechCon 2019, 25th November 2019

PLUX and VRT participated at Radio TechCon 2019, the UK radio and audio industry's technical and engineering conference. After discussing with the organisers prior to the event, we secured a 20 minute presentation slot during the conference programme. The presentation was entitled "Software for Studios: How do you design software that meets presenters' needs without having 100 screens in the studio? The team from VRT have been testing modular studio designs. Hear how they got on and how you can use similar technology in your station." At the Pluxbox stand visitors were also able to learn more about MARCONI.

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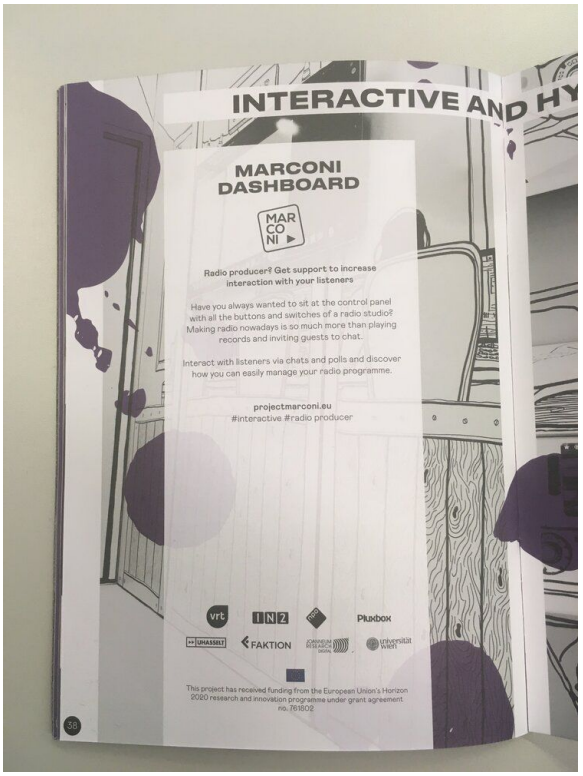
Media Fast Forward 2019, 12th December 2019

MARCONI was once again present at Media Fast Forward in Brussels, Belgium. This annual inspiration and networking festival themed around the future of media welcomed over a 1000 visitors from the Flemish media, technology and innovation sector.

The central theme on the agenda was 'polarisation' and the exhibition section consisted of three different streets with their own focus: Startup Street, Production Street and Innovation Street. The Marconi booth could be found in Innovation Street, the area where different prototypes built with and for various VRT brands were showcased.

MARCONI was one of the six projects presented at Media Fast Forwards and visitors could discover the advantages of interactive radio in a beautifully black and white hand-drawn setting.



Salon De la Radio 2020, 22nd - 24th January 2020

For the second year in a row MARCONI was present at Salon de la Radio in Paris (22-24 January). Also known as the European Radio Show for non-French speakers, the event has become a major happening dedicating itself entirely to the radio industry and aiming for both technicians and decision-makers. Sharing a beautifully designed booth with HRADIO, MARCONI's main mission was promoting an integrated platform for enhanced interaction between radio makers and listeners.

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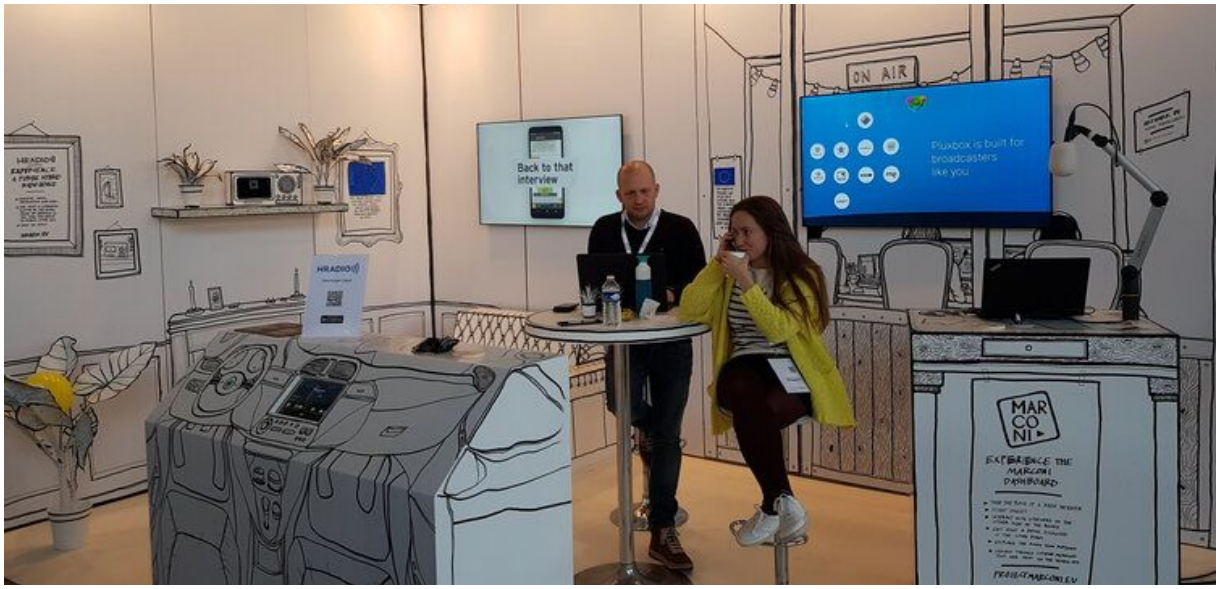
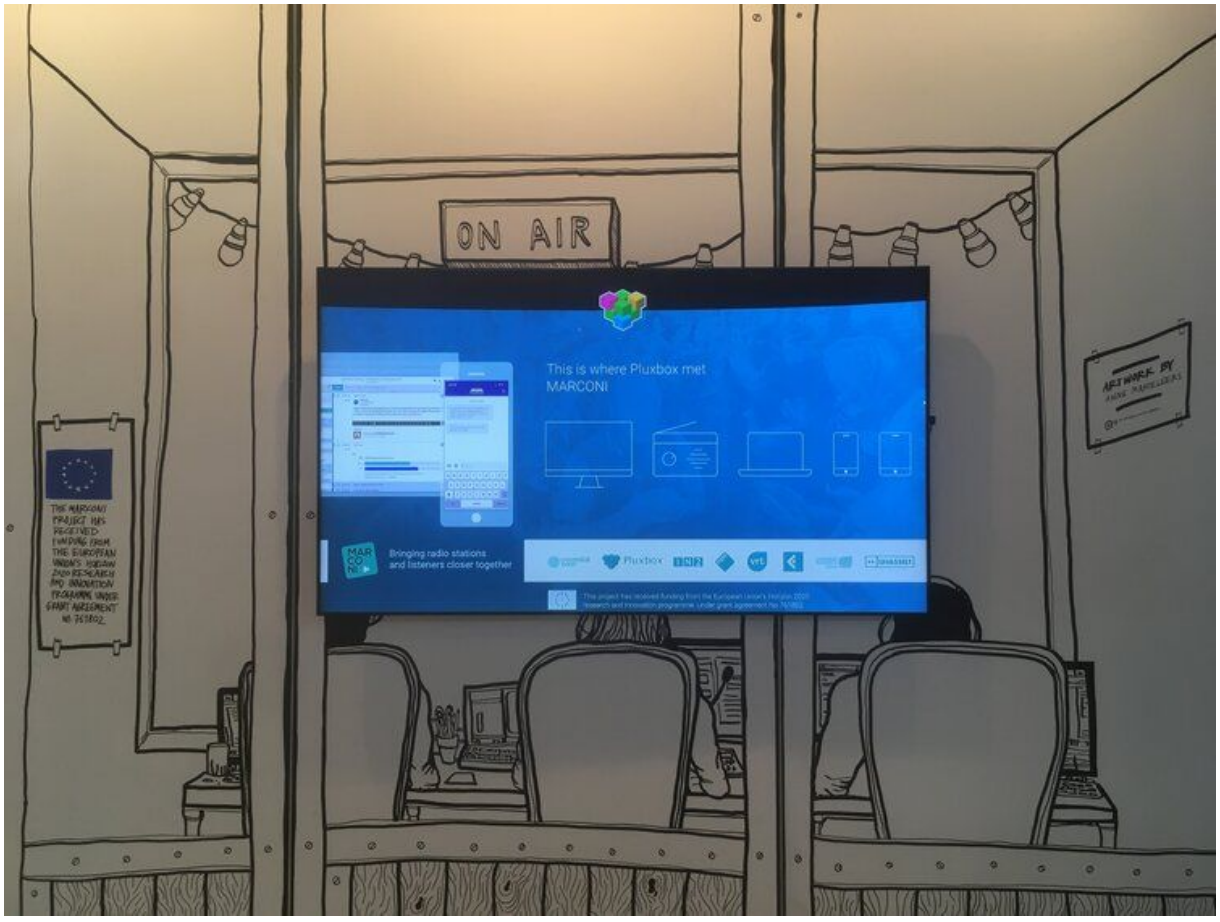
A lot of radio makers were very pleased to discover the existence of a new platform to simplify and smoothen interaction with their audience.



Technical partner Pluxbox was there to showcase our software which has been tested during large scale pilots with all the broadcasters involved in this European project.



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EBU Digital Radio Summit 2020, 12th February 2020

MARCONI was invited to present some of its findings at the 2020 Digital Radio Summit in Geneva. This EBU conference brought together experts from around the world to discuss current hot topics around Digital Radio.

The session was hosted by VRT and entitled 'Improving Interaction between radio makers & listeners: towards an integrated radio production prototype in a one-week hackathon'.

User researcher Chaja Libot and radio presenter Sen De Paepe, working at the Flemish youth radio channel MNM, explained to other radio professionals why radio stations should definitely invest in modern technology to bond with their audience.

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Future plans

Online Webinar

The COVID pandemic has also affected the final dissemination plans of MARCONI. In an effort to replace the physical presence at these events that are now postponed, MARCONI decided to conduct an online Webinar entitled "MARCONI Showcase - Practical insights to interact with your radio audience in an ever changing media market". The webinar would take plan on the 7th of May 2020 and last for 1.5 hours. The date was chosen after the project end in order to allow ample time for participants to register to the webinar. The target audience is broadcaster professionals (radio djs, editors, managers editorial and technical), resellers and the press. The webinar will contain a mix of practical examples from the pilots as well as some information on the technical capabilities of the platform, with ample time at the end for the participants to ask questions. A separate communication plan for the webinar has been prepared and is currently being carried out. After the event itself the recording of the webinar will be accessible from the MARCONI website and constitute another important promotional material which can be used to showcase the results.

Radiodays Europe 2020

MARCONI had planned to attend Radiodays Europe 2020, which was originally planned for the end of March 2020. The project already had arranged for the booth and several presentations and talks during the conference programme. The aim was to use this premier event of the radio industry to have a final showcase of the project outcomes. Again the plans for participation were carried out together with the HRADIO project.

Unfortunately due to the COVID-19 pandemic the event has been postponed for 13th to 15th of December 2020. The consortium is committed to carry out this activity beyond the official end of the project.

3.2 Community building with similar projects

Several members of the consortium (VRT, IN2, PLUX) have participated in the concertation meeting "H2020 Media Projects Workshop: Collaboration Towards the Future of Media" held in Brussels on the 17th of October, 2017. During this event, we established connections with other media projects that are co-financed by the EC. The afternoon of the event was dedicated to breakout sessions that were organised according to thematic clusters. MARCONI representatives were involved in the cluster related to radio and sound, as well as in the cluster related to social media. A direct outcome of this event has been the contact with HRadio[20] and FuturePulse[21] projects and a first attempt at mapping common objectives and opportunities for common work (either with respect to piloting and user access, or with respect to communication and take-up). From these initial discussions, it became apparent that there are more opportunities for creating synergies with HRadio. Future work pursuing the collaboration with HRadio will leverage the participation of VRT in both projects. Regular telcos and meetings with the HRadio and FuturePulse have taken place throughout the project. Deliverables and technical information has been shared between the projects and common submissions for organising workshops at international academic conferences have

[20] http://cordis.europa.eu/project/rcn/211079_en.html

[21] http://cordis.europa.eu/project/rcn/211073_en.html

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been made (e.g. ACM CHI). Furthermore, due to the complementarity of the HRadio and MARCONI project, a common demo highlighting the technologies from both projects and how they fit together has been presented at external events (i.e. ICT2018, MediaFastForward 2018, Salon de la Radio 2019, RadioDays Europe 2019, IBC 2019 and Salon de la Radio 2020). Furthermore, a common booth during Radiodays Europe 2020 (which has been postponed to December 2020) is foreseen.

The collaboration between the three projects has been also on the technical level with some technology integrations being carried out between MARCONI and HRadio, and between MARCONI and FuturePulse:

- For the HRadio / MARCONI integration we added experimental support of RadioWEB and DAB+ over IP to metadata.radio. We updated the poll addon in RadioManager with the technology to send the poll questions to a service of the IRT. The IRT used the DAB+ metadata layer and DAB over IP (a protocol they designed themselves) to send the poll to radio receivers. From here the receiver could send a vote on a poll over IP back to the poll addon in RadioManager. The results of the poll were displayed on a studio television screen to create a lively environment.
- We've integrated the API of FuturePulse in the MARCONI engine. We've mapped some of the functionalities of the Future Pulse service to the GraphQL endpoint so it is documented and could be used in interfaces to retrieve information about songs and artists (such as Spotify popularity).

A further collaboration with existing EU-funded projects has been achieved through the collaboration with the MediaRoad project. Direct contacts and teleconferences between MARCONI team members and MediaRoad members were organised. As a result, MARCONI is mentioned in the website of MediaRoad and featured in several MediaRoad newsletters.

3.3 Scientific dissemination

Whenever possible we will make available the camera ready scientific publications. For this, we will use the project website under the Scientific Dissemination section:
https://www.projectmarconi.eu/dissemination-material

The project has also created a community on Zenodo:
https://zenodo.org/communities/marconi_eu/

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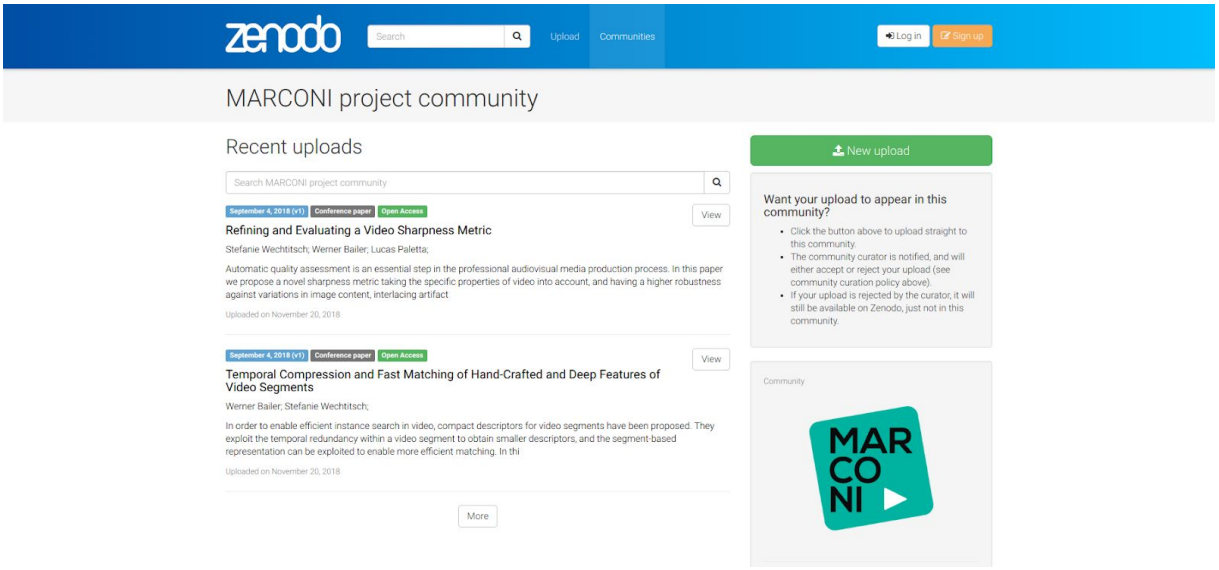
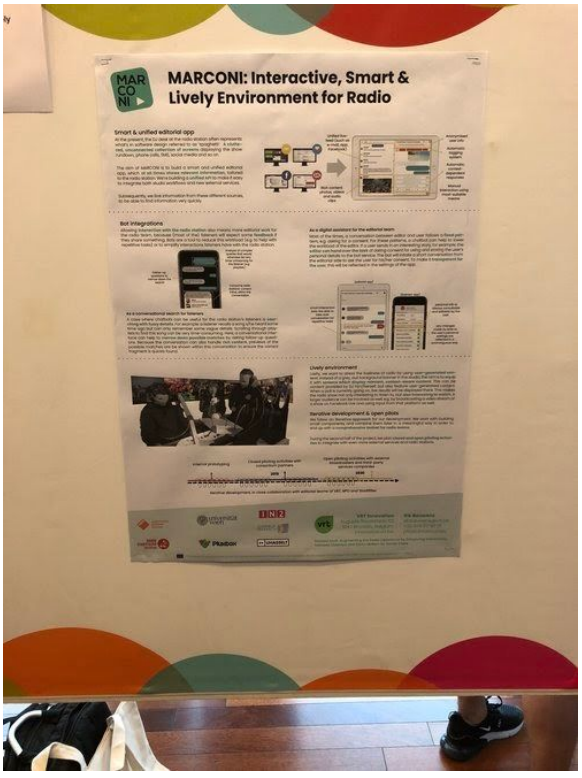


ACM TVX 2018, JUNE 26 – 28, 2018

We prepared, submitted and presented two papers at ACM TVX (Interactive Experiences for Television and Online Video), the reputed international conference for research into online video, TV interaction and user experience. One paper was an industry case and the other a presentation of the work-in-progress.

More information here: https://www.projectmarconi.eu/blog/2018/8/7/marconi-at-tvx-2018



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CBMI2018, SEPTEMBER 4-6, 2018

Two papers were submitted and accepted to CBMI 2018 International Conference on Content-Based Multimedia Indexing. The conference was at its 15th edition and aimed to bring together the various communities involved in all aspects of content-based multimedia indexing for retrieval, browsing, management, visualization and analytics.

One describes a sharpness metric for video and one is focusing on compact video descriptors:

- Stefanie Wechtitsch, Werner Bailer and Lucas Paletta, “Refining and Evaluating a Video Sharpness Metric,” in Conference on Content-based Multimedia Indexing, La Rochelle, FR, Sept. 2018.
- Werner Bailer and Stefanie Wechtitsch, “Temporal Compression and Fast Matching of Hand-crafted and Deep Features of Video Segments,” in Conference on Content-based Multimedia Indexing, La Rochelle, FR, Sept. 2018.

ACM MULTIMEDIA 2018, OCTOBER 22-26, 2018

ACM Multimedia is the most important conference for researchers and practitioners in the multimedia field. This year, the 26th edition of the conference took place in Seoul, Korea, from the 22nd of October till the 26th.

MARCONI contributed to this year’s programme with a tutorial titled “Interactive Video Search: Where is the User in the Age of Deep Learning?”, co-authored by Werner Bailer from Joanneum Research. Interactive video search is relevant when users need to organise and select items from large sets of video content, for example when an editorial team has to make a selection from user-contributed media. During the tutorial, it was discussed whether the recent advances in deep learning allow for entirely automatic content search, or whether user interaction still has a place. Based on the data gathered from evaluation campaigns such as TRECVID and the Video Browser Showdown, the tutorial highlighted the importance of keeping the user in the loop, in particular at times when information needs are fuzzy.

The slides of the tutorial are available online at:

https://www.slideshare.net/klschoef/interactive-video-search-where-is-the-user-in-the-age-of-deep-learning

NEURIPS 2018, DECEMBER 3-8, 2018

From December 3-8, 2018, the Palais des Congrès de Montréal in Canada hosted the Conference on Neural Information Processing Systems (NeurIPS, formerly known as NIPS), one of the world's leading scientific events in the field of Artificial Intelligence and Machine Learning. As part of the conference a workshop titled "Compact Deep Neural Network Representation with Industrial Applications (CDNNRIA)" was co-organized by JOANNEUM RESEARCH.

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This workshop aimed to bring together researchers, educators, practitioners who are interested in techniques as well as applications of making compact and efficient neural network representations. One main theme of the workshop discussion was to build up consensus in this rapidly developed field, and in particular, to establish close connection between researchers in the Machine Learning community and engineers in industry. The workshop assembled more than 200 participants from academia and industry working on techniques and applications of efficient neural network-based learning.

The workshop hosted invited talks with speakers from MIT, DeepMind, Intel, Qualcomm, NVIDIA and University of Amsterdam, oral and poster presentations and a panel discussion. Among the topics discussed was the closer integration between neural network optimization and target hardware, the question of pruning existing networks vs. training more compact networks from scratch, and the necessity for benchmarking of network compression methods. In order to follow up these topics, which are very relevant for the practical use of neural networks in services such as those used in MARCONI, workshops at ICML and NeurIPS 2019 are planned.

MMM2019, January 8-11, 2019

International MultiMedia Modeling Conference (MMM), now in its 25th year, is a leading international forum for researchers and industry practitioners to share new ideas, original research results and practical development experiences from all multimedia-related areas. The 2019 edition was held in Thessaloniki Greece between the 8th and 11th of January.

Two papers have been submitted to MMM 2019, one on anonymizing training images and one on adapting CNN-based face recognition for fast training.

- Bailer W. (2019) Face Swapping for Solving Collateral Privacy Issues in Multimedia Analytics. In: Kompatsiaris I., Huet B., Mezaris V., Gurrin C., Cheng WH., Vrochidis S. (eds) MultiMedia Modeling. MMM 2019. Lecture Notes in Computer Science, vol 11295. Springer, Cham

Co-funded by the Horizon 2020 Framework Programme of the European Union

- Winter M., Bailer W. (2019) Incremental Training for Face Recognition. In: Kompatsiaris I., Huet B., Mezaris V., Gurrin C., Cheng WH., Vrochidis S. (eds) MultiMedia Modeling. MMM 2019. Lecture Notes in Computer Science, vol 11295. Springer, Cham

IRIS 2019, February 21-23, 2019

IRIS2019, International Legal Informatics Symposium, is the biggest event on legal informatics (law and IT) in central Europe. It took place in February 2019 at the University of Salzburg, with University of Vienna as the main organiser. Already in its 22nd year, about 130 speakers presented the latest developments in their field, of which also the MARCONI consortium.

At the event, MARCONI presented its paper entitled “Legal Issues of User Engagement with Interactive Radio Stations”, focusing on data protection issues, authored by Erich Schweighofer and Felix Schmautzer. Radio stations face several hurdles if they want to efficiently engage an audience as large as possible and enable personalisation, while also supporting multiple communication platforms such as Twitter. Radio broadcasters are allowed to skim public media for the purpose of journalistic tasks. For processing additional information however, which will neither fall within the framework of weighing interests, consent from the data subject is the obvious choice. However, the provisions concerning consent, identification and withdrawal of consent must be carefully observed. The paper was well-received and was followed by a discussion that focused on the challenges of implementation .

You are able to read the paper on our Zenodo Community: https://zenodo.org/record/3233688

NVIDIA GPU Technology Conference, 17th - 21st March 2019

JRS participated and presented a talk around various GPU-accelerated content analysis algorithms, including the object detection and face recognition algorithms developed in MARCONI.

ACM TVX 2019, JUNE 5th, 2019

On the 5th of June, the first workshop on Interactive Radio Experiences (IRE) took place at ACM TVX, the International Conference on Interactive Experiences for Television and Online Video, at MediaCityUK in Salford, UK. Despite the increasingly interactive nature of radio experiences, the topic has been neglected so far at TVX and other conferences that address interactive media. The workshop, jointly organised by the H2020-projects MARCONI and HRadio, brought together researchers and practitioners working on tools, services and applications that enable interactive radio experiences.

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The workshop opened with guest speaker Chris Roberts from BBC, who talked about using automatic segmentation of audio content for better interactivity. The programme included four presentations of industry talks and short papers from broadcasters and R&D organisations. The papers are available at: https://zenodo.org/communities/tvx2019ire

The workshop closed with a discussion on the challenges of interactive radio experiences: one major obstacle is the actual creation of content. Today, radio producers need to invest time to create additional content, ranging from adding metadata to visual materials, to interactive dramas. Enriching content with links, additional information, as well as structuring and navigation capabilities might serve as a first, realistic stepping stone in showcasing the potential of interactive radio experiences, while automation through machine learning technologies could enable cost-effective content creation in the near future.

Workshop on Efficient Neural Networks at ICML 2019 , 14th June 2019

Co-organised by JOANNEUM RESEARCH, the *Joint Workshop on On-Device Machine Learning & Compact Deep Neural Network Representations*[22] took place on June 14th, 2019, as part of the 36th International Conference on Machine Learning in Long Beach, CA, USA, one of the world's leading scientific events in the field of artificial intelligence and machine learning.

Similar to the workshop organised at NeurIPS 2019, this workshop brought together more than 150 researchers and practitioners working on the compression of neural network and optimised architectures for hardware acceleration of neural networks. With the rapidly growing number of applications for neural networks, there is an increased need for scalability, and for enabling the usage of these technologies on resource-constrained devices such as mobile phones, smart cameras or embedded processors in vehicles. In addition, in content analysis

[22] https://sites.google.com/view/icml2019-on-device-compact-dnn

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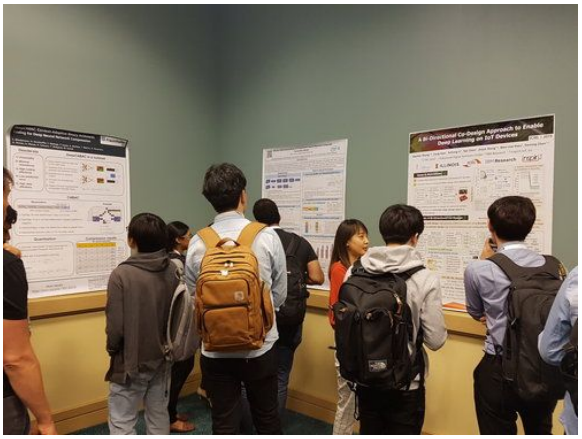
applications like the ones used in MARCONI, local processing can solve privacy issues, as the input data does not need to be sent to a central server.



The workshop hosted invited talks with speakers from MIT, Google, IBM and NVIDIA, five oral presentations, a poster session and a panel discussion on the research challenges that lie ahead. The participants remarked that there is a growing number of target hardware platforms (e.g., specialised tensor processing units) that come with their own specific toolkits for optimisation, which raises interoperability challenges. Thus standardisation activities on exchange formats and representation of compressed networks are required. One example is the standardisation activity in MPEG, to which JOANNEUM RESEARCH is contributing.

The workshop has been live streamed, and recorded talks are available via this link: https://slideslive.com/icml

ACM ICMR 2019, 11th - 13th June, 2019

JRS co-authored a tutorial for ACM International Conference on Multimedia Retrieval, one of the premier, annual conferences in the general multimedia community. The title of the tutorial is “Interactive Video Retrieval in the Age of Deep Learning” and since the event was in Canada and the dates clashed with ICML, the tutorial was presented by the other co-authors.

INTERACT 2019, 2nd - 6th September

VRT participated to the 17th IFIP TC.13 International Conference on Human-Computer Interaction hosted in Cyprus between the 2nd and 6th of September. At the event the paper entitled “#TheDay: Triggering User Generated Videos in Participatory Media Productions” was presented.

ACM Multimedia 2019, 21st -25th October 2019

JRS and UHasselt participated at ACM Multimedia 2019. JRS presented a paper titled “On the robustness of deep learning based face recognition” in the AI4TV workshop. The paper explores the impact of compression artifacts on face detection, and robustly handling unknown persons in face recognition. UHasselt presented a paper titled “Talking Video Heads: Saving Streaming Bitrate by Adaptively Applying Object-based Video Principles to Interview-like Footage”.

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FIAT/IFTA WorldConference, 22nd - 25th October 2019

JRS presented an overview of their AI-based content analysis methods for applications in broadcast archiving, including some of the tools developed in MARCONI.

"Cyberspace" Conference , 29th -30th November 2019

UNIVIE participated in the "Cyberspace" Conference Organized by the Faculty of Law Masaryk University and European Academy of Law and ICT. UNIVIE presented “Consent Management and other Legal Aspects of ‘Interactive Radio’”.

International symposium on Multimedia, 9th - 11th of December 2019

JRS participated to the 21st IEEE International Symposium on Multimedia presenting a paper on efficiently combining multiple object detectors using shared backbone network .

International Multimedia Modeling Conference, 08th - 11th January 2020

JRS participated to the International Multimedia Modeling Conference (MMM) and presented a paper on the creation of interactive radio content as a multimedia analytics challenge, i.e. combining automatic content analysis tools with a human in the loop. The paper is based on the finding from the workshop MARCONI organised at TVX 2019. .

Article in IEEE Transactions on Multimedia

In February 2020 JRS published the article "Interactive Video Retrieval in the Age of Deep Learning - Detailed Evaluation of VBS 2019" in IEEE Transactions on Multimedia. It summarises the 2019 edition interactive video search benchmark that annually takes place at the MM conference, and which MMM has been co-organising for 9 years.

IRIS 2020, February 27-29, 2020

IRIS2020, International Legal Informatics Symposium, is the biggest event on legal informatics (law and IT) in central Europe. The team at University of Vienna presented the paper: "Privacy-friendly Data Management" based on the work done in the MARCONI project.

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Further scientific dissemination

A number of publications have been either submitted or already accepted at upcoming academic conferences:

- Co-organisation of Workshop on Efficient Deep Learning for Computer Vision (at IEEE Conference on Computer Vision and Pattern Recognition)
- Co-organisation of 1st International Workshop on Interactive Multimedia Retrieval (at IEEE International Conference on Multimedia and Expo)
- Paper "Stay Tuned!: Content Substitution, the Listener as Curator, and Other Potential Innovations in Broadcast Radio", submitted for review to ACM Multimedia 2020
- Presentation "Few-shot Object Detection Using Online Random Forests" at the Joint Austrian Computer Vision and Robotics Workshop 2020 (ACVRW, postponed to autumn 2020)
- UNIVIE found a publisher (Weblaw, Bern, CH) for the handbook on privacy issues. Working title: legal issues of interactive radio stations, publisher. The plan is to have 100 copies printed and PDF as open access (golden standard)

3.4 Contribution to standards

Standardisation activities have been carried out. Through JRS we have contributed to standardisation activities in EBU/AMWA FIMS (now MCMA) Automatic Metadata Extraction (AME), in particular on defining services and their parameters, and MPEG Compact Descriptors for Video Analysis, on the reference implementation and finalising the standard. MPEG has started a follow-up project on compact representation of neural networks for multimedia analysis (NNR), which JRS is co-chairing. The analysis of candidate technologies is ongoing, and a first formal draft is expected in July 2020.

JRS has presented the work on implementing FIMS AME services at EBU MDN and the EBU AI Hands on Day in June 2018, and workshops related to the MPEG NNR activities have been organised at NeurIPS 2018, ICML 2019, and CVPR 2020 (online-only due to COVID-19).

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3.5 Stakeholder board

The project actively works towards engaging stakeholders also through the acquiring of support in more formal ways from key organisations. This support will prove very useful in order to successfully launch open piloting activities. Thus a stakeholder board is formed during the project. They will be closely informed about each of the previously mentioned consortium-internal piloting activities and have the opportunity to see the platform at work during the large scale pilots or with dedicated visits to the continuously running pilots within the different involved radio stations.

Additional stakeholders will be attracted (among others) through the dissemination channels provided by the European Broadcasting Union (EBU)

Initially the Stakeholder board contained two organisations:

- Bauer Media Group, representing over 50 radio stations across Europe
- BVMedia SRL, integrating tools in many radio stations in Italy and across Europe.

During the first year we drafted the template for engaging new members to the Stakeholder Board of MARCONI and got the confirmation from a new organisation: Digigram, a provider of equipment for capturing and sharing high quality video and audio

As the project advanced it became apparent that for the stakeholder board to be extended it should be necessary to simplify the process. Thus we merged the list of stakeholders interested in the open pilots (see Deliverable 4.4) with the stakeholder board.

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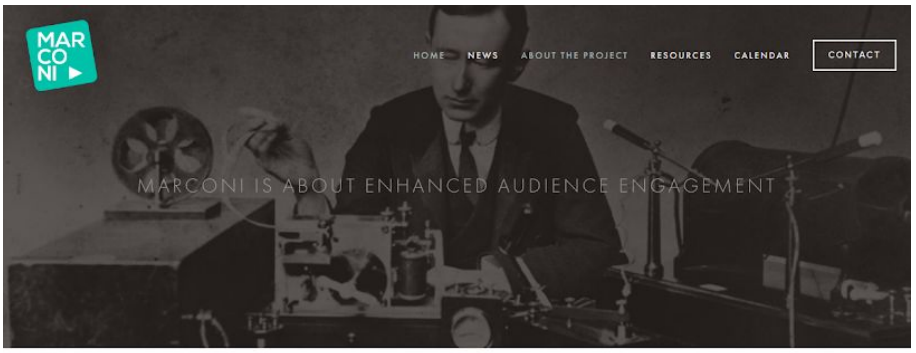
4 Annex 1 – MARCONI website



WELCOME TO THE FUTURE OF RADIO

MARCONI takes on the expectations and challenges that radio faces today: engaging users and offering personalised experiences on various digital platforms. The project aims to enable fully interactive and personalised radio solutions, integrating broadcast radio with digital and social media.

A service-driven software platform will be developed to easily manage listener interaction automation for incoming text, audio, picture or video content by using AI technologies and novel multimedia content analysis technology.

WHAT'S NEXT?

After the first large-scale pilots with radio stations in December, we're looking forward to have your organisation experience the MARCONI platform!

Interested in joining the open piloting phase?
Then **subscribe to our newsletter** and help build your future radio experience!

Subscribe

Sign up to our newsletter and stay updated about our events, results and piloting activities!

Email Address

SIGN UP

We respect your privacy.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 761802

Co-funded by the Horizon 2020 Framework Programme of the European Union

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Multimedia and **A**ugmented **R**adio **C**reation: **O**nline, **I**nteractive, **I**ndividual

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PROMOTIONAL MATERIAL

- POSTER
- TEASER
- POSTCARD - BE PART OF MARCONI
- POSTCARD - FEEDBACK FROM THE LISTENER
- POSTCARD - CO-CREATING CONTENT

PUBLIC DELIVERABLES

- D1.1 - GENERAL CONCEPT
- D1.2 - USE CASES, REQUIREMENTS, ARCHITECTURE AND INITIAL CONTENT
- D1.3 - LEGAL VALIDATION REPORT AND SYSTEM ARCHITECTURE
- D4.1 - STAKEHOLDER FEEDBACK ON EXPLORATORY MOCK-UPS
- D5.1 -COMMUNICATION PLAN, IMPLEMENTATION OF PROJECT WEBSITE AND SOCIAL MEDIA PRESENCES
- D6.2 - QUALITY ASSURANCE PLAN

NEWSLETTERS

- NEWSLETTER #1 - ABOUT FIRST USE CASES AND INSIGHTS
- NEWSLETTER #2 - ABOUT ICT AND THE MARCONI PILOTS

SCIENTIFIC DISSEMINATION

- TVX POSTER - INTERACTIVE, SMART & LIVELY ENVIRONMENT FOR RADIO
- TVX POSTER - AUGMENTING THE RADIO EXPERIENCE
- TUTORIAL AT ACM MM'18 - INTERACTIVE VIDEO SEARCH: WHERE IS THE USER IN THE AGE OF DEEP LEARNING?
- STEFANIE WECHTITSCH, WERNER BAILER AND LUCAS PALETTA, "REFINING AND EVALUATING A VIDEO SHARPNESS METRIC," IN CONFERENCE ON CONTENT-BASED MULTIMEDIA INDEXING, LA ROCHELLE, FR, SEPT. 2018.
- WERNER BAILER AND STEFANIE WECHTITSCH, "TEMPORAL COMPRESSION AND FAST MATCHING OF HAND-CRAFTED AND DEEP FEATURES OF VIDEO SEGMENTS," IN CONFERENCE ON CONTENT-BASED MULTIMEDIA INDEXING, LA ROCHELLE, FR, SEPT. 2018.

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5 Annex 2 - Press Clippings

DE TIJD

EU trekt 4,1 miljoen uit voor innovatie bij VRT

De VRT krijgt, samen met enkele partners, 4,1 miljoen euro aan Europese subsidies voor vijf innovatieprojecten. Met het geld wil de omroep de Vlaming persoonlijker bedienen.

'De VRT is niet langer een monoliet, we stellen ons open.' Mick De Valck, algemeen directeur Technologie en Operaties aan de Reyerslaan, en Dieter Boen, innovatiemanager, monsteren tevreden de activiteit in de VRT Sandbox, een ruimte die ter beschikking staat van starters en creatievelingen. De zandbak moet **kansen geven aan externe bedrijfjes en de interne creativiteit voeden.**

Voor innovatie is er in de nieuwe overeenkomst met de Vlaamse overheid nochtans geen aparte inkomstenstroom meer. 'Er is geen dotatie meer voor, alles komt uit eigen middelen of subsidies', legt De Valck uit. De VRT kijkt naar **subsidies voor specifieke projecten**, om een technologie te onderzoeken of die verder te ontwikkelen. '70 procent van onze innovatieprojecten is betaald met Vlaamse en Europese steun.'

Sandbox

Voor starters uit de tech- en mediawereld is de Sandbox-formule een

De VRT hoort nu voor vijf projecten de Europese spaarpot aan. De Valck en Boen zien het als een bewijs dat de VRT niet wil beknibbelen op innovatie. De

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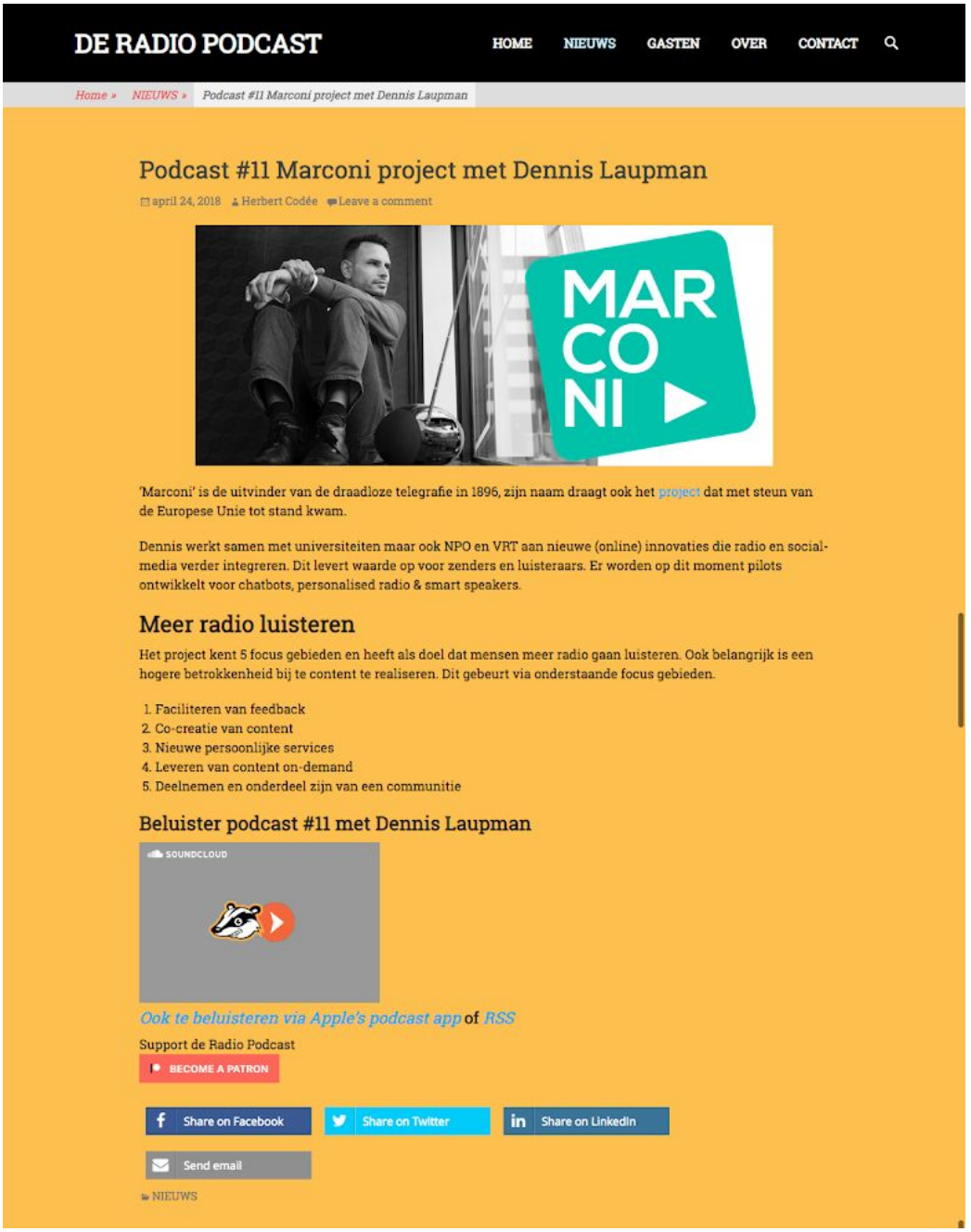

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Contents

SPECIAL FEATURE

THE GROWING POWER OF MEDIA CONTENT CONVERGENCE

Greater interaction tools for next-gen radio shows

A large share of the radio experience now lies in interaction between listeners, radio hosts and special guests. But whilst technological advances have empowered listeners willing to make their voice heard, these are still failing broadcasters who have a hard time dealing with all this input. The MARCONI project is working hard to remedy this situation.

Long gone are the times when the only way for radio listeners to interact with their favourite show was a phone call and the hope of being shortlisted for an on-air contribution. To make their voice heard, listeners can now send SMSs and use Twitter, Facebook and even Instagram.

But such an increase in visibility has a downside too. Broadcasters' jobs have become more time consuming. Not every listener will get an answer, and this can all result in a frustrating experience at both ends of the microphone.

"Our goal with MARCONI is to tackle the technical challenges arising from the current lack of integration between existing communication monitoring tools and radio making tools. We are creating a software platform that enables interactive and personalised radio. It effectively integrates 'live' broadcast radio with digital platforms," says Mike Matton, coordinator of the project and head of international R&D collaborations at VRT Innovation.

A TRULY USER-DRIVEN PROJECT

The MARCONI (Multimedia and Augmented Radio Creation: Online, iNteractive, Individual) project technology provides broadcasters with a single platform integrating multiple components. These include: an integrated live view of communication platforms; smart analysis of conversions; AI-powered photo, video and audio analysis; and GDPR-compliant data management. The platform also gives prominence to enhanced interaction with listeners, thanks to new tools for contests and polls, chatbots and personalised services based on user profiles (sematic analysis, push notifications, topic detection). MARCONI can even be fully integrated with other tools commonly used by radio stations.

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© radioshot, Shutterstock

"MARCONI is a truly user-driven project," says Matton. "Radio stations and listeners have been involved in the development process since the very start of the project. This allowed us to learn many things about their needs."

A SERIES OF SUCCESSFUL PILOTS

MARCONI's solutions have been extensively tested in eight large-scale pilots. These notably covered the creation of chatbots for various NPO and VRT radio stations. 'Flammie' automatically answers questions related to a charity event hosted by Studio Brussel (VRT), while another chatbot developed for NPO Radio 5 answers general questions related to the station's programme and music currently being played and provides a helpdesk for listeners.

As Matton puts it: "The main purpose of a chatbot is to engage listeners with a service that takes their profile and personal interests into account. They can use a poll system, create their own account and specify their interests so that their content can be used on the show. Moreover, the chatbot reduces the editor's work while offering a new channel to build stories."

Besides chatbots, the pilots also cover the likes of an editorial dashboard showing incoming messages and allowing staff members to sort them manually or automatically based on keywords. A DJ, for instance, can use this system to create a persona, answer messages automatically and send bulk replies. Similarly, the Lively Environment pilot of VRT makes use of large screens in studios to showcase interaction-related information, from polls to user-generated content. A search tool has also been evaluated to navigate through user messages.

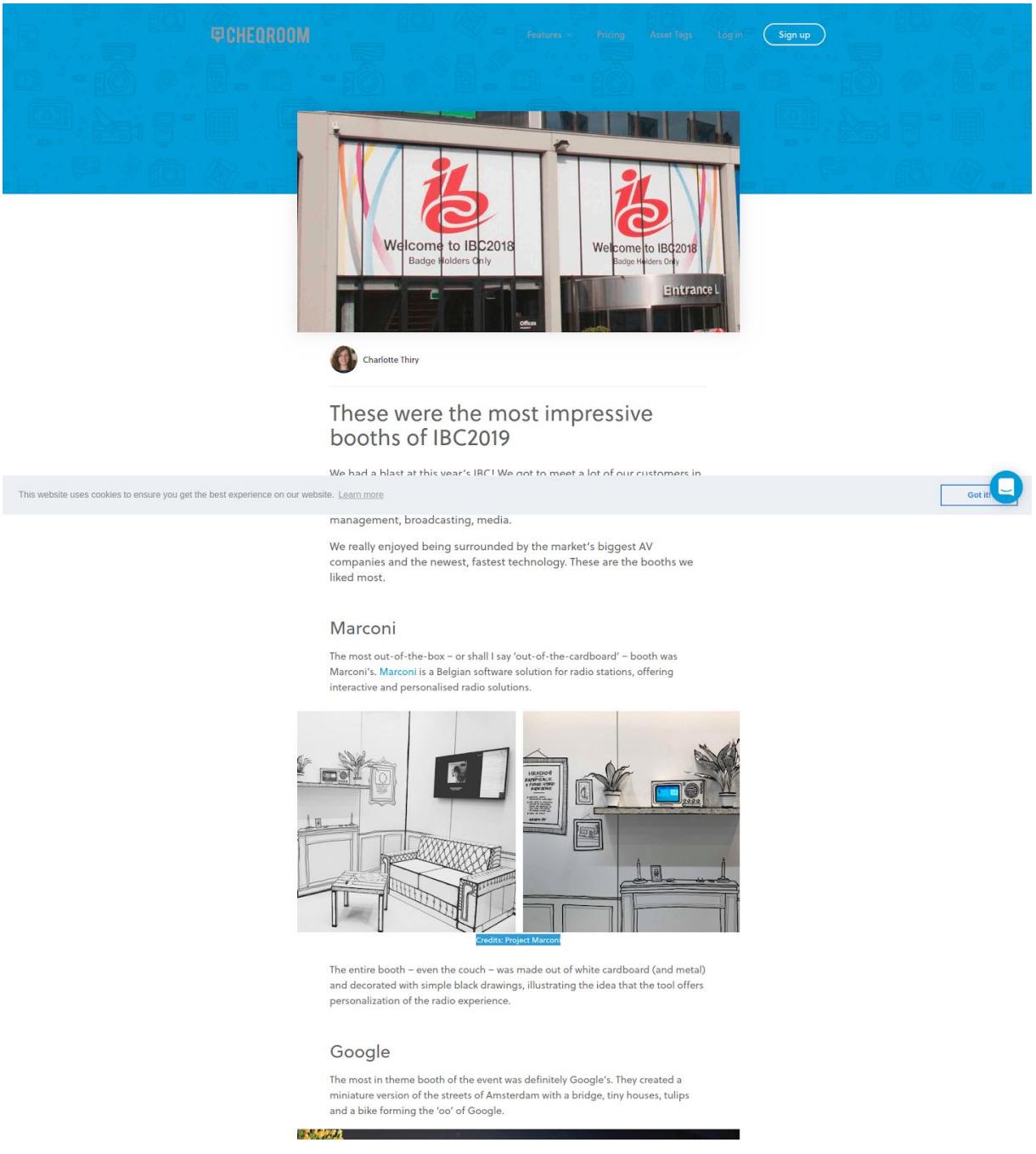
"The radio professionals we talked to are very excited about the platform and what it could mean for their shows and radio station. But they have also identified remaining challenges such as the use of conversational agents to guide the interaction. Further tweaking is needed, and ongoing pilots will help us overcome these challenges," says Matton.

Several more pilots are foreseen before the end of the project in February 2020, after which the consortium will be focusing on exploitation activities. Stations which took part in the open pilots and the existing clients of project partner Pluxbox, which will lead commercialisation activities, will be the first target customers. "Since each station is different and has specific needs, the business model will be to offer tailored solutions rather than an off-the-shelf product," Matton concludes.

MARCONI

- Coordinated by VRT in Belgium.
- Funded under H2020-LEIT-ICT.
- cordis.europa.eu/project/id/761802
- Project website: projectmarconi.eu
- bit.ly/2q4xzlr

Co-funded by the Horizon 2020 Framework Programme of the European Union



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RADIOWORLD

Newsletter Customer Service

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HOME › NEWS AND BUSINESS

Project MARCONI Brings Stations Closer to Listeners

EU-backed program aims to automate and increase listener engagement

WILL JACKSON · DEC 19, 2019

AMSTERDAM — Visitors to the main radio area of the recent IBC exhibition may have noticed a striking hand-drawn white cardboard stand in the adjacent "Future Zone."

This was the home of Project MARCONI (Multimedia and Augmented Radio Creation Online, INteractive, Individual) and HRadio, both funded by the European Union's Horizon 2020 research and innovation program.

The hand-drawn cardboard Project MARCONI stand at IBC2019.

The project consortium includes public broadcasters NPO in the Netherlands, and Belgium-based VRT, alongside technology companies and academic partners. Together, they aim to improve radio experiences by enabling fully interactive and personalized radio solutions, integrating broadcast radio with digital and social media.

Rik Bauwens is lead developer for VRT Innovation.

PERSONALIZED RADIO SOLUTIONS

In a live demonstration at IBC, MARCONI highlighted the technologies behind the project: different software tools integrated in a dashboard, using AI-powered chatbots and content analysis. The project showed engagement with listener content by replying to messages, dragging and dropping them into the radio program, and playing their footage on a screen on the other side of the stand.

Rik Bauwens, lead developer for VRT Innovation, describes how the project came about. "MARCONI was preceded by the ICoSOLE project, which focused on user-generated content during live events. For MARCONI, we narrowed this down to music events, such as festivals, in a radio context. Together with some of the ICoSOLE partners, additional technical companies, radio software provider Pluxbox, and radio teams from VRT and NPO, we drafted the MARCONI project."

Bauwens explains that matching novel technological solutions such as face detection and chatbots to a contemporary radio workflow was the biggest challenge for the project.

"To address this, we started by organizing co-creation workshops with both radio content producers and their listeners. Subsequently, we held observations with radio teams at VRT and NPO to get to know their current tools. We adopted an agile development process with week-long sprints and a stand-up with project partners every Monday, to continually evaluate and adjust our prototypes."

EXPERIMENTATION

The EU funding has also been helpful, he adds. "First, it allows us to experiment next to a live radio production; it gives us the freedom to start over very quickly if needed. Second, it allows us to organize open piloting with other radio stations in Europe, to get even more feedback."

VRT is involved in both Project MARCONI and HRadio. "The use cases are different but complement each other very well," explains Bauwens.

"MARCONI focuses on creating tools for radio-makers to handle novel ways of interaction with their audience. HRadio offers an end-user experience for radio listeners, such as rewinding live radio, participating in polls via DAB+ using a radio webview and so on."

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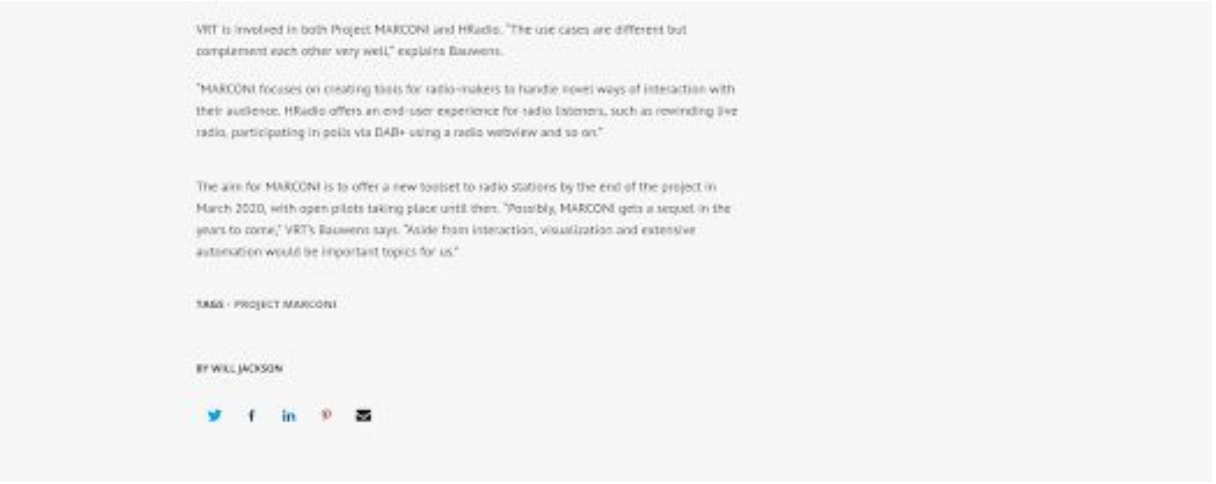

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"MARCONI focuses on creating tools for radio-makers to handle novel ways of interaction with their audience. HRadio offers an end-user experience for radio listeners, such as rewinding live radio, participating in polls via DAB+ using a radio webview and so on."

The aim for MARCONI is to offer a new toolset to radio stations by the end of the project in March 2020, with open pilots taking place until then. "Possibly, MARCONI gets a sequel in the years to come," VRT's Bauwens says. "Aside from interaction, visualization and extensive automation would be important topics for us."

TAGS · PROJECT MARCONI

BY WILL JACKSON

Co-funded by the Horizon 2020
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FORSCHUNG

MARCONI – KI UNTERSTÜTZT RADIOPRODUKTION

WERNER BAILER, ALEXANDRU STAN

Das 2017 gestartete europäische Projekt MARCONI (Multimedia and Augmented Radio Creation: Online, iNteractive, Individual) hat zum Ziel, die Interaktion zwischen Radiogestaltern und Konsumenten zu intensivieren, und gleichzeitig dem Produktionsteam den Überblick über die verschiedenen Kommunikationskanäle sowie die Integration von Konsumentenbeiträgen in die Programmgestaltung zu erleichtern. KI-basierte Technologien spielen eine wichtige Rolle, um den Automatisierungsgrad in diesem Prozess zu erhöhen: Chatbots beantworten Standardanfragen, direkte und Social Media-Nachrichten werden automatisch mit Programmelementen verknüpft, und Bilder sowie Videos können automatisch analysiert und klassifiziert werden. Durch die Integration dieser Dienste in ein Radioredaktionssystem erhöht MARCONI die Effizienz und Qualität der Radioproduktion. Nach erfolgreichen internen Tests bei NPO und VRT und Pilotversuchen bei externen Radiostationen wurde das Projekt im März 2020 abgeschlossen.

The European project MARCONI (Multimedia and Augmented Radio Creation: Online, iNteractive, Individual), started in 2017, aims at facilitating the integration between radio creators and consumers, while at the same time improving the overview of the production team over the different communication channels and the integration of user feedback into the programme. AI technologies play an important role in improving the level of automation in this process: chatbots help to answer standard questions, messages from direct feedback or social media are automatically associated with programme elements, and images and videos are automatically analysed and classified. With the integration of these services into the radio editorial systems, MARCONI increases the efficiency and quality of radio production. After internal testing at NPO and VRT, and piloting with external radio stations the project has been concluded in March 2020.

Radiogestaltung in Zeiten sozialer Medien

Die Medienlandschaft ist einem erheblichen Wandel unterworfen, der einerseits durch die Konvergenz zwischen verschiedenen Medien und durch zunehmend vielfältige (in Bezug auf Zeit, Ort, Kontext und Inhalt) und personalisierte Formen des Medienkonsums charakterisiert ist. Diese Veränderungen wirken sich auch auf das Medium Radio aus, das seine Popularität über ein Jahrhundert hinweg trotz heftiger Konkurrenz behaupten konnte. Der Anteil der Europäer, die mindestens einmal pro Woche Radio hören, liegt stabil bei 75 Prozent, und die Zahl der täglichen Konsumenten liegt bei 50 Prozent [1]. Während die primäre Stärke des Rundfunks immer noch die Tatsache ist, dass er eine gemeinsame Live-Erfahrung für die Zuhörer ermöglicht, sind Radiosendungen heute viel mehr als nur ein linearer Audiodatenstrom. Radio dreht sich zunehmend darum, Konsumenten über eine Vielzahl von Kanälen zu erreichen und zu binden, einschließlich der Interaktion auf Mobilgeräten, der direkten Kommunikation (Telefon, E-Mail, Instant Messaging), sozialer Medien und visuellem Radio. Damit vervielfältigen sich nicht nur die Kommunikationskanäle, über die der Kontakt mit den Zuhörern gehalten wird und die als Quellen möglicher Inhalte für die Sendungsgestaltung dienen, sondern wird auch die Bereitstellung von ansprechenden Zusatzinhalten in Form von Text und Multimedia zur Notwendigkeit.

Diese erfordert, dass Radioredaktionen und -präsentatoren eine Vielzahl von Kommunikationskanälen beobachten und verschiedene Plattformen mit passenden Inhalten bespielen müssen. Oft sind dafür verschiedenste, nicht oder nur schlecht miteinander integrierte Systeme (Redaktions- und Playoutsysteme, Social Media Dashboards, Telefonsysteme, etc.) im Einsatz. Die Folge ist einerseits eine hohe Belastung des Teams, und andererseits ein nicht optimales Ergebnis: nicht alle Beiträge von Konsumenten können gesichtet werden, womit unter Zeitdruck eine oberflächliche Auswahl getroffen werden muss, dieselben Inhalte werden wiederverwendet, und viele Konsumenten bekommen keine (zeitnahe) Reaktion auf ihre Interaktion.

Das Projekt MARCONI (Multimedia and Augmented Radio Creation: Online, iNteractive, Individual)[1] hat sich zum Ziel gesetzt, diese Situation zu ändern. MARCONI soll interaktives und personalisiertes Radio durch die Integration von Live-Radio mit digitalen Plattformen ermöglichen, um die Möglichkeiten der Konvergenz zu nutzen. Eine wesentliche Rolle kommt dabei der Unterstützung der redaktionellen Arbeit durch Automatisierung zu, insbesondere durch Technologien der Künstlichen Intelligenz (KI). Das Projekt, das von der Europäischen Union im Rahmen einer Horizon 2020 Innovation Action gefördert wird, wird vom Flämischen Rundfunk (VRT) koordiniert. Weitere Partner sind der Niederländische öffentliche Rundfunk NPO, der Hersteller von Radioredaktionssystemen Pluxbox, der KI-Lösungsanbieter FAKTION, der Content Management Systemanbieter IN2, die Universität Hasselt, die Forschungseinrichtung JOANNEUM

[1] https://www.projectmarconi.eu/

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RESEARCH und die Universität Wien, die das Projekt in datenschutzrechtlichen Belangen begleitet.

Dieser Artikel beleuchtet zunächst die verschiedenen Einsatzmöglichkeiten von KI im Anwendungsbereich Radio und deren Umsetzung in MARCONI und gibt dann einen Ausblick.

Möglichkeiten zum Einsatz von KI

Metadatengenerierung

Eine wesentliche Einsatzmöglichkeit von KI in der Radioproduktion (und in der Medienproduktion im Allgemeinen) ist die automatische Erzeugung von Metadaten für audiovisuelle Inhalte.

Metadaten auf gröberer Granularität (zum Beispiel für einen gesamten Clip) und auf höherer semantischer Ebene (zum Beispiel Thema, wesentliche Aussage) lassen sich noch einigermaßen effizient manuell erzeugen. Die große Stärke automatischer Verfahren liegt hingegen in der Erzeugung von detaillierten und segment-bezogenen Metadaten, wie der Detektion von Objekten und deren Position, der Beschreibung von Kamerabewegung, der Erkennung von Gesichtern oder der Transkription des gesprochenen Texts. Detaillierte Metadaten sind beispielsweise notwendig, um interaktive Inhalte zu gestalten, oder existierende Inhalte für verschiedene Plattformen verfügbar zu machen, ohne dass damit eine Vervielfachung der Produktionskosten einhergeht.

Durch den Einsatz von neuronalen Netzwerken mit vielen Layern, von denen vor allem die frühen Layer aus Faltungsoperationen bestehen (sogenannte Deep Convolutional Neural Networks[2]) wurden in den letzten Jahren insbesondere für Anwendungen in der visuellen Analyse große Fortschritte erzielt. Für viele Aufgaben ist die Qualität der automatischen Ergebnisse in einem Bereich, der die Anforderungen für den produktiven Einsatz erfüllt. Das Training solcher tiefen neuronalen Netzwerke erfordert jedoch große Datenmengen. Diese sind zum Beispiel in der Gesichtserkennung oft nicht verfügbar, insbesondere, wenn es sich um Personen von lokaler oder regionaler Bekanntheit handelt, wie es für Radiostationen vielfach relevant ist. Im Projekt wurde daher ein Ansatz entwickelt, um mit einigen wenigen Beispielbildern eine Erkennung zu ermöglichen, und weitere Personen und Beispielbilder später hinzufügen zu können, und dadurch die Robustheit zu erhöhen.

Während für redaktionelle Inhalte zumindest grundlegende Inhalte verfügbar sind, ist für benutzergenerierte Multimedia-Inhalte nur der Kontext bekannt, in dem sie gepostet wurden (und dieser kann absichtlich oder unabsichtlich nicht zum Inhalt passen). Daher ist für Bilder und Videos, die von Benutzern über direkte Kanäle oder soziale Medien gesandt werden, die automatische Extraktion von Metadaten von großer Bedeutung (siehe Abbildung 1). Dies umfasst die Detektion von Objekten, Orten oder Personen, um eine thematische Zuordnung zu treffen (zum Beispiel ob das Bild eine Reaktion auf einen bestimmten Aufruf einer Radiosendung ist oder zu einem Sendungsthema gehört), oder die Erkennung von Duplikaten bzw. Feststellung der Ähnlichkeit von Bildern, um sie zu gruppieren und der Redaktion die Arbeit zu erleichtern. Ein weiterer wichtiger Aspekt ist die technische Qualität, die manchmal bei benutzergenerierten Inhalten zu wünschen übrigässt. So können beispielsweise unscharfe, aufgrund schlechter Lichtverhältnisse verrauschte Bilder und Videos oder verwackelte Videos aussortiert

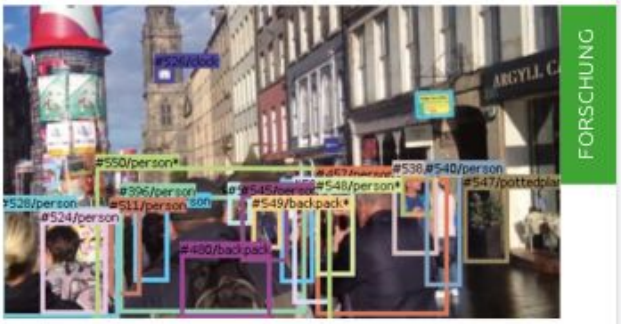

Abbildung 1: Beispiel für Objektdetektion in benutzergenerierten Inhalt.
Quelle: JOANNEUM RESEARCH / ICoSOLE Project

werden. Gleichzeitige kann dem Konsumenten Feedback gegeben werden, warum die Inhalte nicht verwendet werden konnten. Im Kontext von Musikfestivals wurde bereits demonstriert, dass Entscheidungen der Redaktion, von Konsumenten zur Verfügung gestelltes Material zu verwenden oder nicht, auch von Maschinen gelernt werden können [3].

Suche und Indizierung

Die Redaktionsteam einer Radiosendung bekommt regelmäßig tausenden Nachrichten über verschiedene Kanäle, wie zum Beispiel Radio-Apps, soziale Medien, Email, etc. Einige dieser Inhalte sind nicht nur zum Zeitpunkt, zu dem sie gesendet werden, relevant, sondern auch für zukünftige Sendungen. Deswegen ist es wichtig, dass all diese Inhalte so indiziert werden, sodass sie für die Redaktion griffbereit sind. Dafür ist es wichtig, dass die Inhalte mit Metadaten angereichert sind (zum Beispiel mittels der oben beschriebenen KI-Methoden). In MARCONI können alle Konversationen, Texte und Multimedia-Beiträge mühelos über eine Google-ähnliche Suchoberfläche durchsucht werden. Bei Bedarf kann die Suche über zusätzliche Parameter, zum Beispiel ein Zeitrahmen, eingeschränkt werden.

Apache Solr und Lucene sind sehr zuverlässige und skalierbare Technologien, die von den meisten Textsuchmaschinen verwendet werden. In MARCONI wurden sie benutzt, um einen Volltextindex und mehrere Indizes zum Filtern und Facettieren von Ergebnissen zu erstellen. Während dieses Prozesses werden einige Textverarbeitungsprozesse (Zerlegung in Wörter, Aufteilen von zusammengesetzten Wörtern, etc.), das Extrahieren von Erwähnungen (zum Beispiel @Benutzername) und Hashtags durchgeführt sowie die Anwendung von Stoppwortlisten, Synonymersetzungen etc. Der Volltextindex wird hauptsächlich für Suchen verwendet, während Facetten das Verfeinern der Ergebnisse durch besondere Merkmale ermöglichen. Der Benutzer kann sowohl mittels einfacher Abfragen (zum Beispiel Schlüsselwörter, Benutzernamen, Hashtags) oder mittels komplexer Abfragen (zum Beispiel Boolesche Operatoren, Verschachtelungen, Platzhalter, Facetten) suchen.

Chatbots

Konversationsbasierte Benutzerschnittstellen gewinnen zunehmend an Bedeutung, sei es für den Support auf Websites, um Kommunikation über Messaging Dienste zu ermöglichen oder für sprachgesteuerte Interaktion wie zum Beispiel mit Smart Speakers. Chatbots ermöglichen es Radiostationen, auf häufig gestellte Fragen automatisiert zu antworten, die

[2] https://de.wikipedia.org/wiki/Convolutional_Neural_Network

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FORSCHUNG

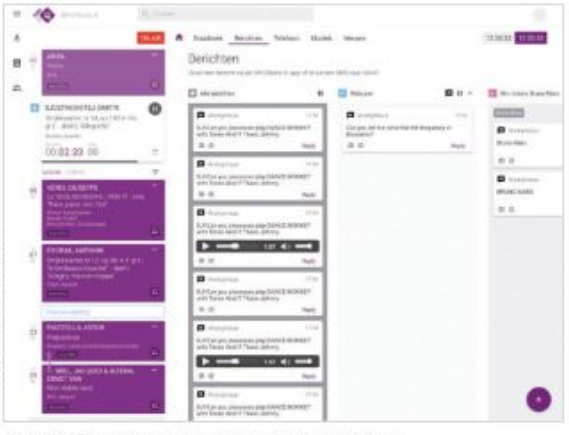
Quelle: NPO / MARCONI Project

Abbildung 2: Chatbot auf der NPO Radio 5 Website.

sich auf den Sender im Allgemeinen (zum Beispiel Moderatoren) oder auf ein bestimmtes Ereignis beziehen (zum Beispiel Programm, gespielte Musik, Veranstaltungen). Der Dienst ist ständig verfügbar und bietet den Benutzern die Möglichkeit, automatisiert zu Informationen zu gelangen.

Die MARCONI-Chatbots nutzen die KI-basierte Sprachverarbeitung, die derzeit die Sprachen Niederländisch, Französisch, Englisch und Deutsch unterstützt. Mit ihrer Hilfe können Absichten, Gefühle und Entitäten (zum Beispiel Personen, Organisationen, Orte) extrahiert werden. Für die Chatbots müssen Modelle für die Absichtserkennung und optional für die Entitätsextraktion trainiert werden. Eine Absicht bezeichnet eine bestimmte Aktion, die ein Benutzer ausführen kann. Eine Absicht kann zum Beispiel eine Frage, eine Aussage, eine Antwort auf eine Frage oder eine Begrüßung sein. Ausdrücke sind Beispielsätze für eine bestimmte Absicht, mit denen das Modell trainiert wird. Je mehr Ausdrücke zu einer Absicht hinzugefügt werden, desto genauer wird sie erkannt. Wird die Absicht nur mit geringer Zuverlässigkeit erkannt, kann gezielt nachgefragt und als letzte Maßnahme die Kommunikation an einen Menschen übergeben werden.

In typischen Chatbot-Applikationen wie der Bearbeitung von Kundendienst-Anfragen greifen Chatbots auf eine relativ statische Wissensdatenbank zurück. Eine Herausforderung in MARCONI war es, den Chatbot mit dem Redaktionssystem zu verknüpfen, und damit in Echtzeit aktuelle und detaillierte Informationen über das Programm, die DJs und die Playlists der Radiostation liefern zu können. Darüber hinaus wurde in MARCONI auch eine Integration für Umfragen geschaffen, wie sie häufig von Radiostationen gemacht werden. Die Umfragen können im Redaktionssystem definiert werden, und Antworten, die über verschiedene Kanäle ankommen und der Umfrage zugeordnet werden können, werden automatisch ausgewertet. Die Chatbots können in die Website (siehe Abbildung 2) oder App einer Radiostation eingebunden werden, aber auch mit anderen Diensten wie zum Beispiel Facebook Messenger integriert werden, um den Konsumenten über deren bevorzugte Kommunikationskanäle zur Verfügung zu stehen.



Quelle: Pluxbox / MARCONI Project

Abbildung 3: RadioManager als zentrale Benutzerschnittstelle.

Umsetzung im Projekt MARCONI

Um diese KI-Methoden für die Radioproduktion nutzbar zu machen, wurde eine Microservice-Architektur gewählt. Der Hauptgrund liegt in der Flexibilität: jede Radiostation benötigt eine andere Teilmenge der Services, und die Workflows unterscheiden sich ebenfalls beträchtlich. Das trifft auch auf verschiedene Stationen einer Rundfunkanstalt zu, wie sich bei den Tests mit den VRT Stationen Studio Brussel und MFM sowie NPO 3FM und Radio 5 gezeigt hat. Diese Unterschiede ergeben sich durch unterschiedliche Gewichtung von Programminhalten (zum Beispiel Musikanteil, Diskussionen zu aktuellen Themen mit Hörerbeteiligung), aber auch durch die demographische Zusammensetzung des Publikums (zum Beispiel Konsum über Mobilgeräte, Nutzung von Messaging Diensten).

MARCONI Plattform

Die MARCONI-Plattform dient als Backend für das Redaktionssystem RadioManager[3] und steuert die verschiedenen Microservices (KI-basierte und andere). Die Datenspeicherung erfolgt mittels ArangoDB[4] und RocksDB[5], wobei GraphQL[6] als Schnittstelle zu allen anderen Komponenten dient. Das betrifft nicht nur das Einfügen, Aktualisieren und Abfragen von Daten, sondern auch Steuerfunktionen. Über den GraphQL-Subscription-Mechanismus werden Dienste ereignisbasiert (zum Beispiel Eintreffen einer neuen Nachricht über einen bestimmten Kommunikationskanal) aufgerufen.

Die Plattform deckt auch zentrale Funktionalitäten wie Authentifizierung ab. Eine Besonderheit der MARCONI-Plattform ist der PriVaults-Datencontainer, der die Ablage von benutzerbezogenen Daten nach dem Prinzip „Privacy by Design" ermöglicht. Für bestimmte Elemente in der Datenbank werden Berechtigungen definiert, die mit den im System definierten erlaubten Verarbeitungsvorgängen für einen Benutzer abgeglichen werden. Die Definition, welche das sind, basiert entweder auf explizit von Benutzern erteilten Zustimmungen (solche Zustimmungen können auch automatisiert über Chatbots eingeholt werden), oder Vorgaben des Datenschutzbeauftragten (zum Beispiel wenn es eine gesetzliche Grundlage dafür gibt). Entwickler von Diensten und Applikationen können dieses Konzept beim Zugriff auf Daten nicht aushebeln, und der Widerruf von Zustimmungen führt automatisch zur Sperre des Zugriffs auf die Daten. Somit bleibt die Kontrolle bei den Datenschutzverantwortlichen und darüber hinaus werden alle Zugriffe auf Benutzerdaten auch protokolliert.

[3] https://pluxbox.com/
[4] https://www.arangodb.com/
[5] https://rocksdb.org/
[6] https://graphql.org/

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Microservices

Die weiter oben beschrieben KI-Funktionalitäten werden als Microservices bereitgestellt, und über eine Middleware-Komponente an die MARCONI-Plattform angebunden. Diese Middleware stellt die Verbindung zwischen der GraphQL-Schnittstelle und den jeweiligen APIs der KI-Dienste (typischerweise REST-basierte APIs) her.

Die Mircoservices werden als verteiltes System ausgerollt. Sowohl die Plattform als auch einzelne Services können entweder auf der Infrastruktur der Radiostation als auch in der Cloud bereitgestellt werden. Die auf KI-Algorithmen basierenden Services profitieren dabei stark von hochparallelen Prozessorarchitekturen, wie zum Beispiel Grafikprozessoren (GPUs). Manche der KI-Dienste, wie zum Beispiel die Verarbeitung von Multimedia-Inhalten, die von Konsumenten beigetragen werden, sind starken Auslastungsschwankungen unterworfen. Während die Anzahl solcher Inhalte für viele Radiostationen im Allgemeinen eher gering ist, steigt die Anzahl solcher Nachrichten nach einem Aufruf oder während einer Veranstaltung extrem stark an. Daher ist die Skalierbarkeit von Cloudinfrastrukturen vorteilhaft, um diese kurzfristigen Spitzen abdecken zu können.

Benutzerschnittstelle

Um eine effiziente Bedienung des Systems zu ermöglichen, wurde das Radio-Redaktionssystem RadioManager als Basis verwendet und erweitert. RadioManager ist eine webbasierte Lösung (siehe Abbildung 3), um Planung, Organisation und Ablauf von Radiosendungen zu verwalten, und bietet bestehende Integrationen, zum Beispiel mit Musikdatenbanken und Playoutsystemen. Verschiedenste Kommunikationskanäle können auf Basis der Ergebnisse aus MARCONI integriert werden, die Nachrichten aus verschiedenen Quellen und zusammen mit automatisch extrahierten Metadaten anzeigen. Diese Nachrichten können durchsucht werden, oder nach definierten Filterkriterien organisiert werden. Per Drag&drop können Nachrichten mit Sendungsinhalten assoziiert werden, Multimedia-Inhalte für Visual Radio verwendet werden, oder Nachrichten gruppiert beantwortet werden. Das Layout kann an verschiedene Rollen im Team angepasst werden, um zum Beispiel der Redaktion einer Sendung den Überblick zu allen mit dem Sendungsthema verbundenen Informationen zu geben, oder dem Moderator den Fokus auf den Sendungsablauf und Nachrichten im Kontext zum aktuellen Beitrag zu geben.

Ausblick

Die im Projekt entwickelten Technologien wurden in etlichen Tests bei den beteiligten Rundfunkanstalten auf ihre Praxistauglichkeit überprüft. So wurden beispielsweise bei NPO positive Erfahrungen mit dem Einsatz von Chatbots bei Radio 5 und mit einem "Studio Messenger" genannten Nachrichten-Dashboard gesammelt. Sowohl bei NPO 3FM als auch bei VRT Studio Brussel kamen Chatbots und Austausch von Multimedia-Inhalten über soziale Medien bei karitativen Kampagnen zum Einsatz. In der finale Pilotphase des Projekts, das im März 2020 abgeschlossen wurde, wurden Technologien auch bei Radiostationen außerhalb des Projektkonsortiums getestet. Die Ergebnisse fließen in die aktuelle Version von RadioManager ein bzw. werden als optionale Erweiterungen angeboten.

Referenzen

[1] Media use in the European Union. Tech. rep., Standard Eurobarometer 88 - Wave EB88.3 (Nov. 2017)

[2] Martin Winter, Werner Bailer, "Incremental Training for Face Recognition", In 25th International Conference on MultiMedia Modeling, Thessaloniki, GR, Jan. 2019

[3] Werner Bailer, Martin Winter, Stefanie Wechtitsch, "Learning Selection of User Generated Event Videos," In: Workshop on Content-based Multimedia Indexing, Florenz, IT, Jun. 2017

[4] Werner Bailer, Maarten Wijnants, Hendrik Lievens, Sandy Claes, "Multimedia Analytics Challenges and Opportunities for Creating Interactive Radio Content," In 26th International Conference on MultiMedia Modeling, Daejeon, KR, Jan. 2020

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6 Annex 3 - Newsletters

Newsletter #1:
https://mailchi.mp/d2c110040cb4/marconi-mail-1-about-first-use-cases-and-insights

Welcome to MARCONI

The team is excited to send you the first newsletter of the MARCONI project, in which you will get an insight into the project's activities!

MARCONI stands for "Multimedia and Augmented Radio Creation: Online, iNteractive, Individual". The project started in September, 2017, and will run until the end of February, 2020. MARCONI is an innovation action funded by the H2020 programme. The project brings together a multidisciplinary consortium, spanning 3 radio broadcasters, a provider of radio redaction solutions, as well as relevant industry members and academic partners.

Have a look at the factsheet

The general aim of this project is to bring radio experiences to the next level by enabling fully interactive and personalised radio solutions, integrating broadcast radio with digital and social media, amounting to converged radio experiences. To realize this goal, MARCONI will pursue two concrete objectives. First, consumers will be able to interact with "live" radio through their preferred communication channel in various ways. Second, radio makers will be given an integrated view on audience interactions and will be supported by interaction automation services.

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Newsletter: #2:
https://mailchi.mp/eefb57bba623/marconi-mail-1-about-first-use-cases-and-insights-519307

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Greetings from MARCONI at ICT 2018

This is the second newsletter of the MARCONI project, in which you can learn more about our first pilots and where to find us.

ICT2018, Imagine Digital - Connect Europe, is a research and innovation event by the European Commission that focuses on the European Union's priorities in the digital transformation of society and industry. The event will take place in Vienna from the 4th till the 6th December 2018.

MARCONI has been one of the projects selected to be part of the exhibition programme of the conference. Our booth is part of the General Exhibition in Hall X4 at stand T10. We will showcase the apps for radio makers and listeners, which are also part of the oncoming pilots. You will be able to talk with the innovators behind the exciting technologies used by MARCONI, such as AI-powered chatbots and content analysis.

So stop by our booth and experience the future of radio in person!

Let's pilot!

The MARCONI project has a clear focus on innovation that can be transferred to the market and have a strong impact in the broadcasting industry on how radio stations and listeners interact with one another. For this reason, the project is running a series of large-scale pilots with several radio stations and their listeners.

NPO Radio 5

In this pilot, NPO is developing a pilot around a chatbot for NPO Radio 5. Listeners can ask information about the different shows, DJ's, songs and competitions. They can vote with a poll, create an account and specify their interests so that their content can be used in the show. The goal of the usage of the chatbot is to involve the listeners in the program and engage them with a better service using personal information and profile updates. On the other hand, we want to reduce the editor's work through automatically answered questions by the chatbot and find new stories for the show.

App the Studio (NPO)

NPO will elaborate on the chatbot experiments with the development of the 'App the Studio' Application. A series of brainstorms with editorial teams of all NPO radio stations generated the idea to extensively rebuild the much used 'App the studio' feature. Ideas were instant feedback for users, easier and

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Newsletter: #3:
https://mailchi.mp/2838995f8512/discover-marconi-from-13-17-september-at-ibc

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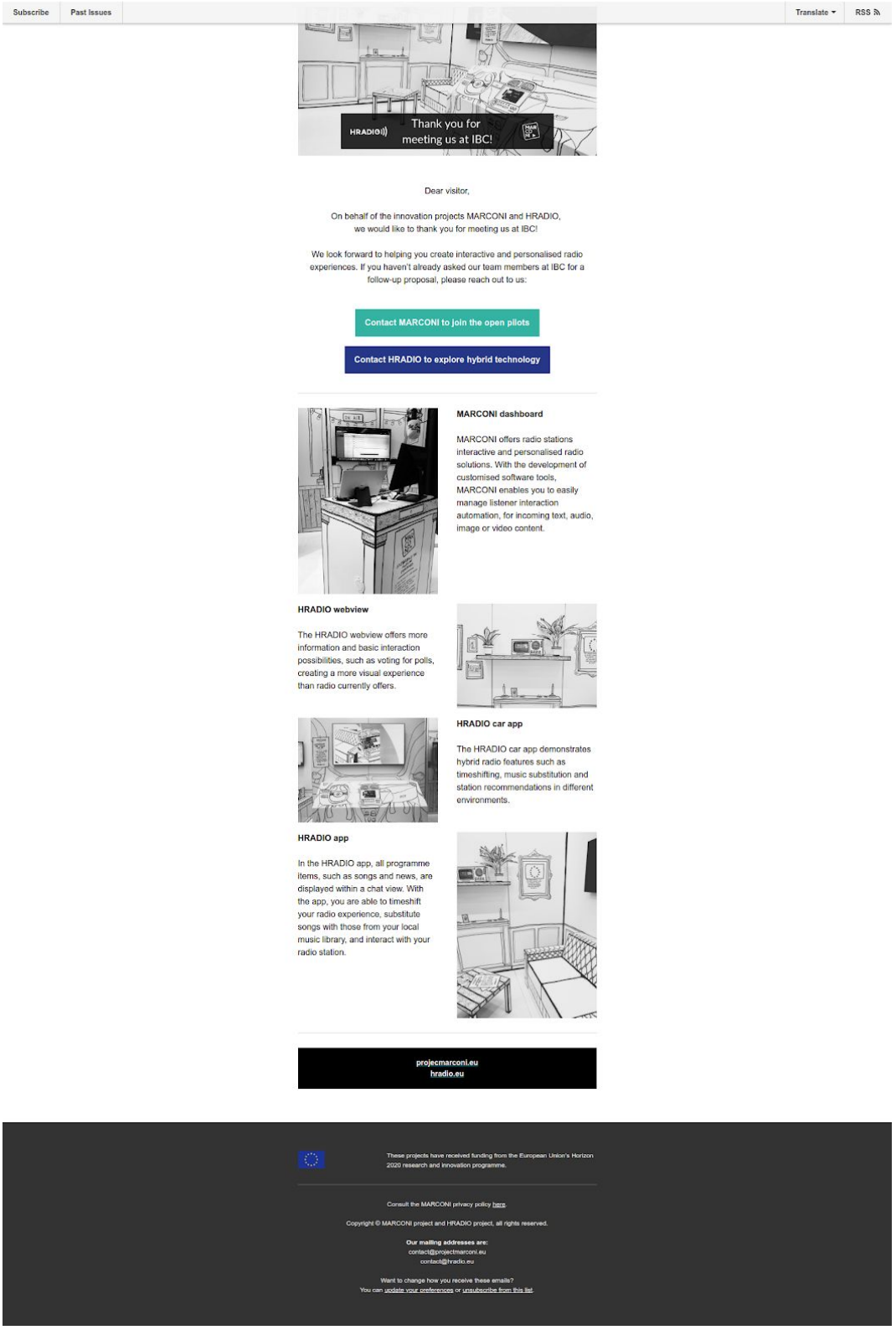
Newsletter: #4:
https://us17.campaign-archive.com/?u=38d814aac9c2bdccfffa4d8ca&id=0698172801



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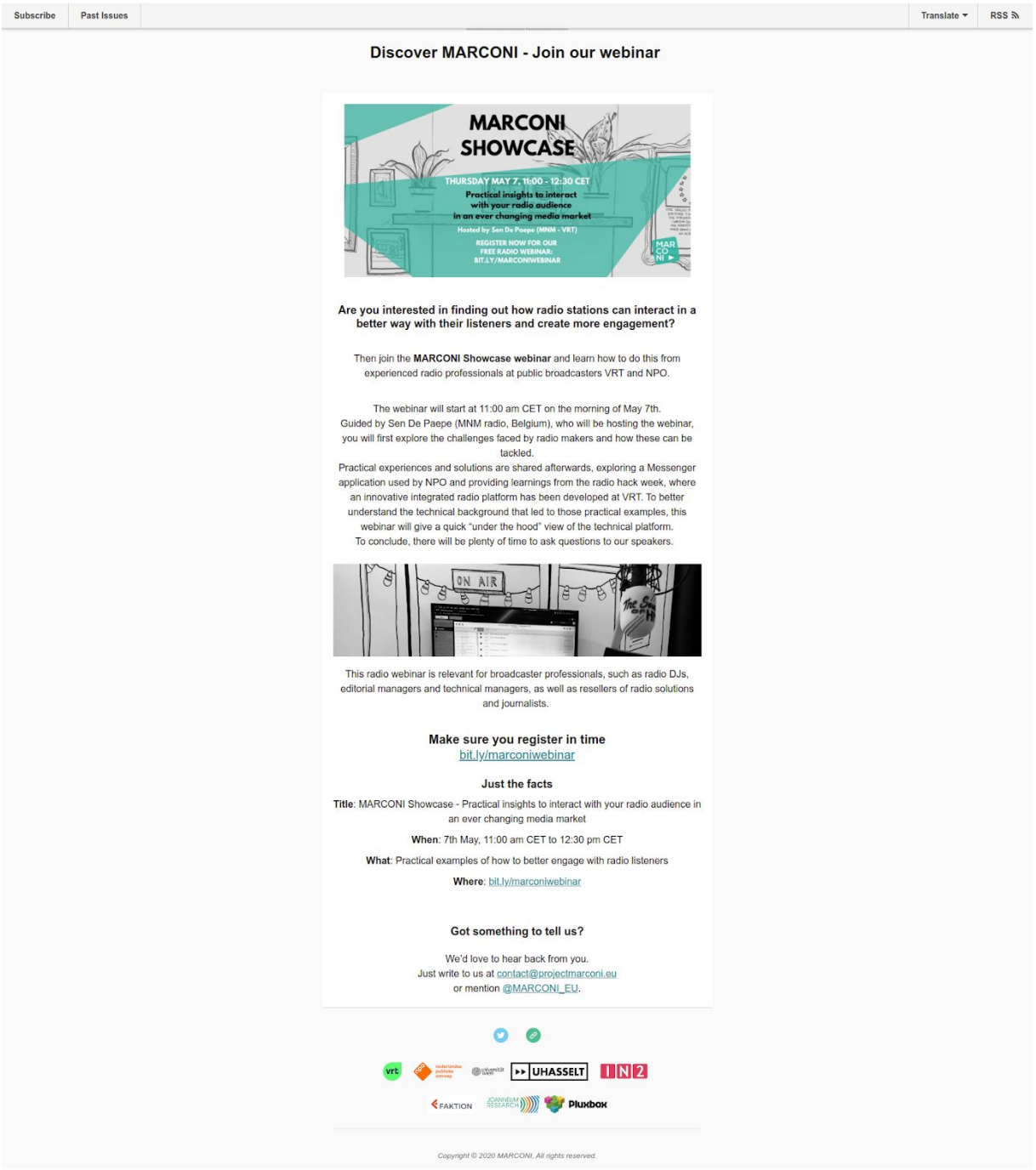
Newsletter: #5:
https://us17.campaign-archive.com/?u=38d814aac9c2bdccfffa4d8ca&id=9994912422



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Discover MARCONI - Join our webinar

Are you interested in finding out how radio stations can interact in a better way with their listeners and create more engagement?

Then join the **MARCONI Showcase webinar** and learn how to do this from experienced radio professionals at public broadcasters VRT and NPO.

The webinar will start at 11:00 am CET on the morning of May 7th.
Guided by Sen De Paepe (MNM radio, Belgium), who will be hosting the webinar, you will first explore the challenges faced by radio makers and how these can be tackled.
Practical experiences and solutions are shared afterwards, exploring a Messenger application used by NPO and providing learnings from the radio hack week, where an innovative integrated radio platform has been developed at VRT. To better understand the technical background that led to those practical examples, this webinar will give a quick "under the hood" view of the technical platform.
To conclude, there will be plenty of time to ask questions to our speakers.

This radio webinar is relevant for broadcaster professionals, such as radio DJs, editorial managers and technical managers, as well as resellers of radio solutions and journalists.

Make sure you register in time
bit.ly/marconiwebinar

Just the facts

Title: MARCONI Showcase - Practical insights to interact with your radio audience in an ever changing media market

When: 7th May, 11:00 am CET to 12:30 pm CET

What: Practical examples of how to better engage with radio listeners

Where: bit.ly/marconiwebinar

Got something to tell us?

We'd love to hear back from you.
Just write to us at contact@projectmarconi.eu
or mention @MARCONI_EU.

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7 Annex 4 - Posters

General Audience Poster:

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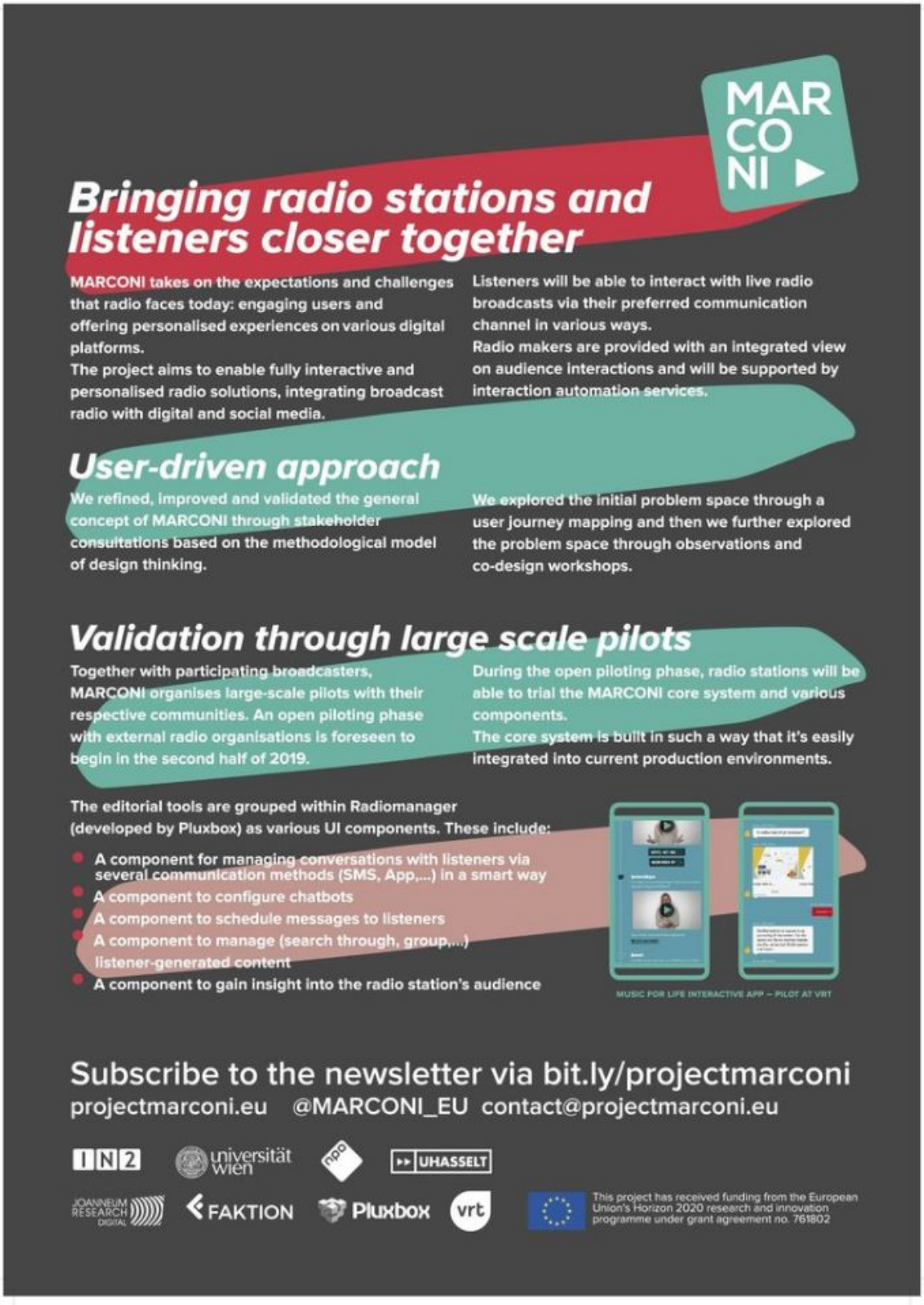

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TVX posters:

Augmenting the Radio Experience by Enhancing Interactions between Radio Editors and Listeners

Authors: **Sandy Claes,** Rik Bauwens and Mike Matton

Figure 1. Co-design workshop with radio makers of VRT in Belgium.

Study set up
The study took place at 2 public broadcasters, which both house 5 or more radio stations (i.e. VRT in Belgium, NPO in The Netherlands) and 1 independent city radio station (i.e. StadtFilter in Switzerland), which also gave us the opportunity to reflect on similarities and differences through observations and co-design workshops and guided by the research question:

"How can we augment radio experiences through interaction?"

Workshops with radio makers
24 Radio makers (of which 12 female) participated in one of the 3 co-design workshops. These radio makers have various responsibilities (e.g. an editor of online content, the host of a show) and are connected to different types of radio stations (e.g. station that aims at youth, fans of classical music or rock music etc.).

Workshops with listeners
22 Listeners (of which 9 female) participated in one of the 3 co-design workshops. Listeners varied in age (AVG. 35 y.o., SD. 15), experience levels towards interaction with radio station (e.g. calling, sending text or chatbot messages) and type of station.

Discussion

Similarities between radio makers and listeners
Also, listeners raised the point that radio items are not always relevant, or might take too long. To give feedback to the radio makers, they envisioned an application to give feedback. This concept overlaps with the needs defined by several radio makers (of VRT and StadtFilter).
As listeners found it frustrating to miss interesting content, they were also wondering if the rich content could be explored on a later basis. They envisioned concepts (such an application that would push older items that are linked to a particular location) to discover content of the radio archive. Similarly, radio makers also referred to the radio archive as a potential source of information for more personalized services.

Similarities between broadcasters
It was not the scope of this study to compare results of three radio broadcasters in detail, yet results revealed 3 interesting insights.

In all workshops with radio makers, the work effort concerning maintaining social media contacts was named as a frustration. In the large-scaled stations, dedicated online editors take care of content for each social media channel. In the small-scaled station, this work is done by radio hosts. They all recognize opportunities to automate these interactions.

On the other hand, in all workshops with radio makers, a certain fear towards chatbot technology was expressed. Radio makers fear they would misinterpret messages of listeners, and respond not according to the values of the radio station.

In the workshops with listeners, all participants expressed a general requirement to respect the community (as examplified in the concept on smaller communities) and background functions of radio (illustrated by concepts that deal with radio as a mistery).

Points of attention

A Facilitating relevant feedback: Several concepts concerned the need to understand the listener, and to find out what is relevant at a certain moment.

B Co-creating content: Three concepts built upon this need to understand the listener by allowing him to co-create radio items or compose their 'own' radio show.

C Allowing personal services for listeners: Other concepts focus on creating personalised radio experiences.

D Providing content on demand for listeners and radio makers: Several concepts focused on the ability to filter content and explore the radio archive.

E Feeling part of a community: Some concepts were concerned to protect radio as a collective experience, and proposed solutions to strengthen this community aspect.

Figure 2. Cartoon illustration of one of the concepts concerning voice control.

Next steps
This exploratory study is framed within a larger design research project on the interactive potential of radio. Our next steps will include the definition of i) user scenarios and ii) prototypes. For i), we will cluster the concepts from the workshops and write a scenario for each of the above mentioned attention points. For ii), we foresee a workshop with the 3 broadcasters and other industrial stakeholders (e.g. radio software developers) to collaboratively identify the needed interfaces and rank according to their preferences. Then, we plan to pilot these prototypes within the stations of the broadcasters, and iteratively refine the concepts.

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Related work: MARCONI: Interactive, Smart & Lively Environment for Radio

The research leading to the presented results has received funding from the European Union's Horizon 2020 Programme (2014-2020) under grant agreement n° 761802.

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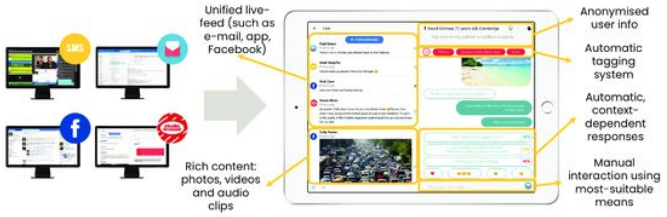
MARCONI: Interactive, Smart & Lively Environment for Radio

Smart & unified editorial app

At the present, the DJ desk at the radio station often represents what's in software design referred to as 'spaghetti'. **A cluttered, unconnected collection of screens** displaying the show rundown, phone calls, SMS, social media and so on.

The aim of MARCONI is to build a smart and unified editorial app, which **at all times shows relevant information**, tailored to the radio station. We're building a **unified API** to make it easy to integrate both studio workflows and new external services.

Subsequently, we **link** information from these different sources, to be able to find information very quickly.



Bot integrations

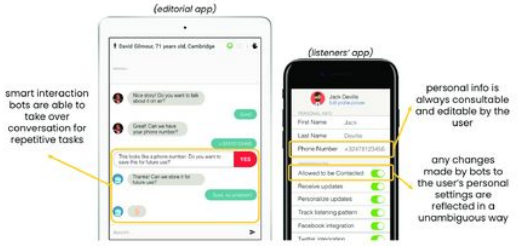
Allowing **interaction with the radio station** also means more editorial work for the radio team, because (most of the) listeners will expect some **feedback** if they share something. Bots are a tool to reduce this workload (e.g. to help with repetitive tasks) or to simplify interactions listeners have with the radio station.

As a conversational search for listeners

A case where chatbots can be useful for the radio station's listeners is **searching with fuzzy details**. For example: a listener recalls a song s/he heard some time ago but can only remember some vague details. Scrolling through playlists to find this song can be very time-consuming. Here, a conversational interface can help to **narrow down possible matches** by asking follow-up questions. Because the conversation can also handle **rich content**, previews of the possible matches are be shown within this conversation to ensure the correct fragment is quickly found.

As a digital assistant for the editorial team

Most of the times, a conversation between editor and user follows a **fixed pattern**, e.g. asking for a consent. For these patterns, a chatbot can help to lower the workload of the editor. If a user sends in an interesting story, for example, the **editor can hand over the task** of asking consent for using and storing the user's personal details to the bot service. The bot will initate a short conversation from the editorial side to ask the user for his/her consent. To make it **transparent for the user**, this will be reflected in the settings of the app.



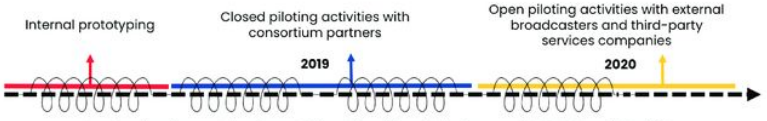
Lively environment

Lastly, we want to stress the liveliness of radio by using **user-generated content**. Instead of a grey, dull background banner in the studio, the aim is to equip it with **screens which display relevant, context-aware content**. This can be content provided by DJ him/herself, but also feature user-generated content. When a poll is currently going on, live results will be displayed there. This makes the radio show not only interesting to listen to, but **also interesting to watch**. A larger audience can be involved as well, e.g. by broadcasting a video stream of a show on Facebook Live and using input from that platform as well.

Iterative development & open pilots

We follow an **iterative approach** for our development. We start with building small components, and combine them later in a meaningful way in order to end up with a **comprehensive toolset for radio teams**.

During the second half of the project, we plan **closed and open piloting activities** to integrate with even more external services and radio stations.



Iterative development, in close collaboration with editorial teams of VRT, NPO and Stadtfilter

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Related work: Augmenting the Radio Experience by Enhancing Interactions between Listeners and Radio Makers by Sandy Claes

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