Initial Dissemination and Communication Report and Plan

Modelling and Orchestrating heterogeneous Resources and Polymorphic applications for Holistic Execution and adaptation of Models In the Cloud

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Executive summary

This document presents a comprehensive plan for communication and dissemination related activities within the MORPHEMIC project. The document describes a mix of channels, tools and activities for reaching the MORPHEMIC target audience and objectives. This includes a combination of proven, traditional approaches (e.g., to be present at conferences and industry events) and social media presence.

The purpose of this document is to plan communication and dissemination activities with scheduling and coordination between all participants of the project. The deliverable describes objectives and actions that are to be taken in order to reach the wide audience of future clients or partners. The deliverable contains a schedule all the participants of the project are strongly committed to realize.

In this deliverable it is also reported all dissemination and communication activities held during month 1 to 16 of the project.

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1 Introduction

In order to understand what exactly this document is about, we need to define properly what communication and dissemination are. The Definition, Objective, Focus, Target Audience and Formal Obligations are described in the table below:

Table 1 The differences between Communication and Dissemination activities[1]:

	Communication	**Dissemination**
Definition	Communication on projects is a strategical planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange. The purpose of the communication activities is to make the research activities known to multiple audiences (in a way that they can be understood by non-specialists) and the activities must address the public policy perspective of EU research and innovation funding, by considering aspects such as (i) transnational cooperation in a European consortium (i.e. how working together has allowed to achieve more than otherwise possible) or (ii) scientific excellence or (iii) contributing to competitiveness and to solving societal challenges.	The public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications in any medium.
Objective	Reach out to society and show the impact and benefits of EU-funded R&I activities, e.g., by addressing and providing possible solutions to fundamental societal challenges.	Transfer knowledge & results with the aim to enable others to use and take up results, thus maximising the impact of EU-funded research.
Focus	Inform about and promote the project and its results/success.	Describe and ensure results available for others to *use* j focus on results only!
Target Audience	Multiple audiences beyond the project's own community incl. media and the broad public.	Audiences that may take an interest in the potential *use* of the results (e.g. scientific community, industrial partner, policymakers).
Formal Obligations	• Rules for Participants[2] • Research and Innovation Action (RIA) & Innovation Action (IA) Proposal Template 2.2 b)[3] • Grant Agreement Art. 38.1[4]	• Rules for Participants [5] • Research and Innovation Action (RIA) &

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[1] Making the Most of Your H2020 Project Boosting the impact of your project through effective communication, dissemination and exploitation
[2] Rules for Participants
[3] RIA & IA Proposal Template 2.2 b)
[4] Grant Agreement Art. 38.1

		Innovation Action (IA) template 2.2 a)[5]
		• Grant Agreement Art. 29[6]

1.1　Structure of the document

The document is divided into the following sections:

1. **Introduction**, which explicates the purpose of the deliverable, the audience and synergy between communication and dissemination;
2. **Objectives** describes main objectives of the MORPHEMIC to be followed by project partners;
3. **Target audiences**, which describes the audience of the MORPHEMIC project and their main focus;
4. **Communication activities reporting and planning** broadly describes all communication activities undertaken by the project partners within 16 months of the project with the plan for the future communication activities;
5. **Dissemination activities reporting and planning**, which broadly describes all dissemination activities undertaken by the project partners within 16 months of the project with the plan for the future dissemination activities;
6. **Partners' channels** declares partners engagement in the communication and dissemination about the project progress;
7. **Communication and dissemination procedures** comprises the MORPHEMIC communication and dissemination procedures established in order to update and maintain the sustainability of the whole project activities;
8. **Communication and dissemination schedule and timing** describes in detail the extensive schedule for communication and dissemination tools and activities to be provided as part of the MORPHEMIC project;
9. **Continuous evaluation** states that communication and dissemination in the MORPHEMIC project should be conducted in 3 main areas: in quality, in quantity and in terms of achieved results with description of each;
10. **Related deliverables** section describes two other deliverables related to D7.1;
11. **Conclusions** gives overview of the communication and dissemination importance in the project.

1.2　Purpose of the document

The purpose of this document is to present the communication and dissemination strategy for the MORPHEMIC project. The deliverable describes objectives and actions that are to be taken in order to reach the wide audience of our clients or partners. This deliverable contains a detailed schedule all the participants of the project are committed to realize.

Furthermore, this deliverable is to report on all the project communication and dissemination activities, held during month 1 to 16 of the MORPHEMIC project.

1.3　Audience of the document

The deliverable is directed to all partners and contributors of the MORPHEMIC project and to every person who will participate in communication and dissemination activities in the future:
• Academic – participants working in university environments; scientists and researchers,
• Industrial – employees of private or public companies or corporations, mostly in the Information Technology sector.

1.4　Synergy of communication and dissemination

Communication and dissemination activities are closely connected and overlapping in many aspects. Thus, to be efficient and effective all goals connected respectively to communication and dissemination activities will be supported, but activities will be treated as mostly indivisible with much reuse of materials and positive feedback loops. This is why both communication and dissemination are described together in this document.

In the communication and dissemination strategy of the project, one of the most important messages to communicate is that the MORPHEMIC project is based on the results of the **Melodic project**[7], finished with success in January 2020. We called it: **MORPHEMIC powered by Melodic**.

The MORPHEMIC is a unique way of adapting and optimizing Cloud computing applications. The project introduces a novel open-source platform for optimizing the deployment and life-cycle management of data-intensive applications in the cloud computing continuum. It extends the Melodic Multi-cloud platform by simplifying Cloud application

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[5] RIA & IA Proposal Template 2.2 a)
[6] Grant Agreement Art. 29
[7] melodic.cloud

modelling and continuously optimizing and morphing the deployment model to take advantage of beneficial Cloud capabilities. This information will be inserted on the project website, provided through current and future social media messages as well as included on communication material and conveyed through other activities within the project lifetime.

This is extremely important, as the document describes crucial aspects of the project – communication and dissemination activities. Without proper communication with potential customers and partners, and without disseminating information about the MORPHEMIC project and its results, it is like the whole effort put into this project was never there.

2   Objectives

The objectives and its subobjectives presented below are key to the success of the communication and dissemination strategy of the MORPHEMIC project:

- To explain to the **general public** what the objectives and the expected results of the MORPHEMIC are, and how European industry, SMEs in particular, will benefit from the outcomes of the project:
    - o **MORPHEMIC is powered by Melodic** - in the communication and dissemination strategy of the project the most important messages to communicate is that the MORPHEMIC is based on the results of the **Melodic project**,
    - o To ensure the maximum visibility of the project: informing key stakeholder at local, national, European and international level on the project results,
    - o To engage **organizations from outside of the Consortium** as contributing members of the MORPHEMIC community,
    - o To follow and participate in Cloud standardization initiatives.
- To engage **academic units** – scientists and researchers – to optimize their computing capabilities by using MORPHEMIC in their work.
- To attract the attention of **SMEs and the data-intensive application providers and developers** and explain how MORPHEMIC can help them derive benefits from Multi-cloud:
    - o To launch partnerships with **cloud service providers** that can utilize MORPHEMIC's capabilities to make their offerings more convenient for clients and to gain market share,
    - o To collaborate with **developers from the Open-Source community** to enable them to build upon MORPHEMIC's platform and meet more specialized needs.
- To attract the attention of **large companies** that could greatly benefit from using MORPHEMIC to manage their systems in private, public or mixed clouds environments.
- To make the MORPHEMIC brand recognized by the members of **European ICT** research and cloud constituencies, and to effectively share key research findings with the community.

3   Target Audiences

The focus and motivation of our target audiences must be understood and used as context for communication and dissemination (especially with respect to direct communication). Our main target audiences are presented in Table 2, together with their main focus.

Table 2 Target Audiences

Id	Audience	Audience's focus
1	**Members of Cloud and big-data research communities**	• Keeping up to date with the newest trends and solutions • Deep understanding of cloud technologies • Making use of available solutions for their projects • Promoting their projects, research and work
2	**Opinion leaders and influencers (experts, industry analysts, bloggers, journalists)**	• Keeping up to date with the newest trends and solutions • Engaging stories they can tell

		• Proven use cases • Self-promotion
3	**Cloud educators**	• Step-by-step educational materials • Engaging stories they can tell • Practical approach: how I can use this • Self-promotion
4	**Computing-focused academic units – administrative side**	• Sharing resources both non-profit and for-profit • Operational benefits and improvements
5	**Computing-focused academic units - tech side**	• Ease of use of MORPHEMIC • Team workload
6	**SMEs and other data-intensive application providers – the business side**	• Time-to-market • Cost-related issues • Business benefits • Stability
7	**SMEs and other data-intensive application providers – the tech side**	• Ease of use of MORPHEMIC • Team workload • Stability issues • Product-Project match • Barrier to entry
8	**Large companies - business side**	• Cost related issues • Business benefits • Stability
9	**Large companies - tech side**	• Team workload • Automation • Support • Quality
10	**Cloud providers – the business side**	• Promoting their offer • Fighting for market share • Making their services easy to use and access
11	**Cloud providers - tech side**	• Ease of use of MORPHEMIC • Team workload • Stability issues
12	**Open-Source developers and other Open-Source contributors**	• Ability to use MORPHEMIC as a platform for their projects • Understanding how their code is used in MORPHEMIC • Quality of code • Stability issues • Barrier to entry
13	**Other H2020 project participants and leaders**	• Promoting their projects • Seeking partners to reach and publicity
14	**Other interested parties**	• Everyone interested in MORPHEMIC outcomes and exploitable assets

4   Communication activities reporting and planning

4.1   Website

The MORPHEMIC website[8] will be a centrepiece for all activities of the project (including public deliverables, publications and other tangible results). The website has been enhanced with high quality visual design and illustrations, making MORPHEMIC more approachable and easier to remember.

The deliverable D8.4 *Initial Project Website and Advertising Materials* reports the MORPHEMIC project's initial web presence, including information and activities related to the launch of MORPHEMIC website, the LinkedIn showcase page, the Twitter activities, as well as the Facebook page and other social media activities of the project.

The document also briefly describes the methodology used for web presence creation with justification for its selection. Further, the visual identification package is briefly described, as it is a core element of the presentation layer within the communication channels used in the project. Finally, the future work and sustainability procedures for the MORPHEMIC website and connected social media are presented.

The final version of the sustainability plan for a complete web presence of MORPHEMIC outside of the project will be included in deliverable D8.5 *Final Project Website and Advertising Materials* at M34. This deliverable will also include the final statistics on the communication and dissemination channels.

4.2   Social Media

The MORPHEMIC consortium has planned and is systematically keeping its presence in social media - LinkedIn[9], Twitter[10], Facebook[11] - by posting regularly about the project's progress. In the period covered by the deliverable we started the intensive LinkedIn campaign according to created Communication Plan (described in section 4.6) coordinated by 7bulls. The result from the campaign is going to be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36]. This will allow us to have a continuous dialogue and engagement with other players who use actively various internet platforms. We hope to develop very interesting contacts with companies, projects and certain groups of people, not only from IT sector, which would be profitable for this particular project, but also in other closely related enterprises.

Table 3 MORPHEMIC social media – statistics

Statistics period: 17.02.2020 – 30.04.2021			
	LinkedIn	**Twitter**	**Facebook**
Followers	502	61	29
News	93	57	57
Actions[12]	1362	1063	343

4.3   Business events

MORPHEMIC project members attended and are planning to attend various high-impact industry events as well as open-source community events. All conference attendance is coordinated using the common MORPHEMIC collaboration tools, along with social media posts on LinkedIn[13], Twitter[14], Facebook[15] and announcements through our website (www.morphemic.cloud).

During the first 16th months of the project, which were dominated by pandemic constraints, we faced the cancellation of many events. It was fortunate that some events were relocated into the on-line space, which provided another opportunity to consider the project promotion and communication.

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[8] MORPHEMIC Website
[9] MORPHEMIC LinkedIn account
[10] MORPHEMIC Twitter account
[11] MORPHEMIC Facebook account
[12] ACTIONS: shares, likes, comments, reactions, profile visits, mentions
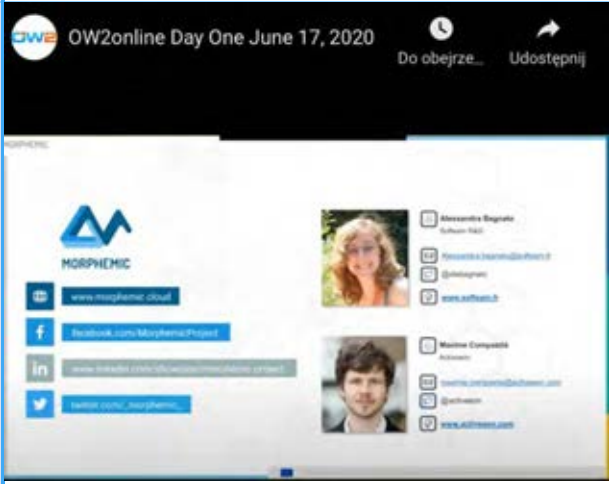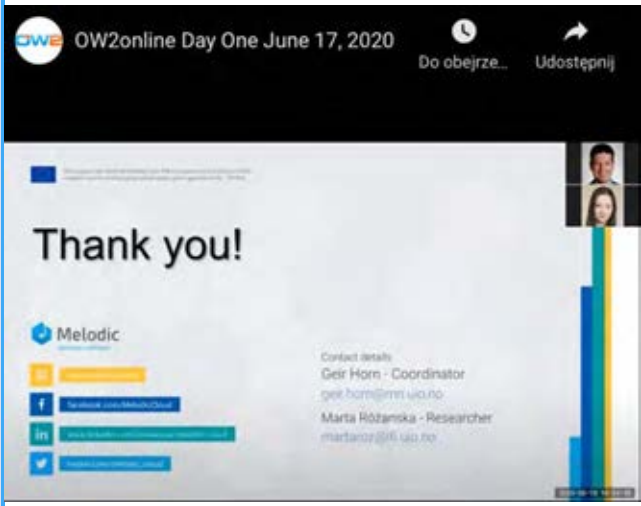[13] MORPHEMIC LinkedIn account
[14] MORPHEMIC Twitter account
[15] MORPHEMIC Facebook account

Our participation in business and open-source community events is always intensively promoted in social media of the MORPHEMIC project, project website as well as partners' social media channels.

4.3.1 Business conferences

Name of the event	OW2 online'20
Place of the event	On-line
Date of the event	2020.06.17
Kind of the event	Business conference
Presenters	• Softeam [Alessandra Bagnato] • Activeeon [Maxime Compastié] • UiO [Marta Różańska, Geir Horn]
Outcome	The goal of the two presentations was to show the MORPHEMIC project and Melodic platform as an open-source product. MORPHEMIC is powered by Melodic solution. Alessandra Bagnato from Softeam and Maxime Compastié from Activeeon had a video presentation entitled: "Advanced proactive and polymorphing cloud application adaptation". During the presentation the vision and key building blocks of the project were presented. It was also highlighted that the MORPHEMIC source code and repositories are on OW2 at: https://gitlab.ow2.org/melodic/morphemic-preprocessor Marta Różańska and Geir Horn from UiO presented the Melodic platform during the session entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Presentation focused on the Melodic as a single universal platform for optimized deployment and management of applications in the Cloud, key features and benefits of using Melodic were also presented. It was highlighted that the Melodic is enterprise ready and used by European companies. The Melodic platform is hosted on OW2. This online conference was focusing on open-source communities – especially on their growth.

	OW2 is an independent, global, open-source software community. OW2online'20 brought together experts from around the world who focus on open-source software and its role in modern corporate information systems. We expect that this first on-line OW2 conference organized during the pandemic constraints will have the positive impact of the exploitation of the MORPHEMIC project.

Name of the event	**Serverless Days Online**
Place of the event	On-line
Date of the event	2020.09.03 [Warsaw] 2020.09.04 [Australia & New Zealand]
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Serverless Days are global developer-oriented conferences about serverless technologies. Alicja Reniewicz and Paweł Skrzypek presented MORPHEMIC project during the session entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". That was a big interest among the audience regarding the project powered by a single universal platform for optimized deployment and management of applications in the Cloud – Melodic. Key features, core building blocks of the MORPHEMIC and benefits of using MORPHEMIC were showed. The success of this event came from the great interest among participants and especially the speakers regarding MORPHEMIC project and its potential outcomes. We believe that this on-line conference organized during the pandemic constrains despite the fact of lacking personal meetings will have the positive impact of the exploitation of the project.

Name of the event	**BigData & AI Paris 2020**
Place of the event	Paris
Date of the event	2020.09.14-2020.09.15
Kind of the event	Business conference
Presenters	• Activeeon [Maxime Compastié]
Outcome	BigData Paris & AI Paris 2020 have been merged due to pandemic constraints. Activeeon was located in the Startups Village as a technical exhibitor. Alongside the presentation of

their core products, Activeeon exposed H2020 MORPHEMIC as their current R&D effort in application orchestration in edge environments. Maxime Compastié from Activeeon had a presentation entitled: "Proactive and polymorphing application adaptation for Cloud and Edge". During the presentation the vision, key objectives, as well as technical features and benefits of using MORPHEMIC were showed.

Maxime presented the project and its objectives, detailed its added value for the typical visitors of these events, and proposed to stay in contact with the consortium. During the event 30 participants left their contacts as an interest of the project and its outcomes.
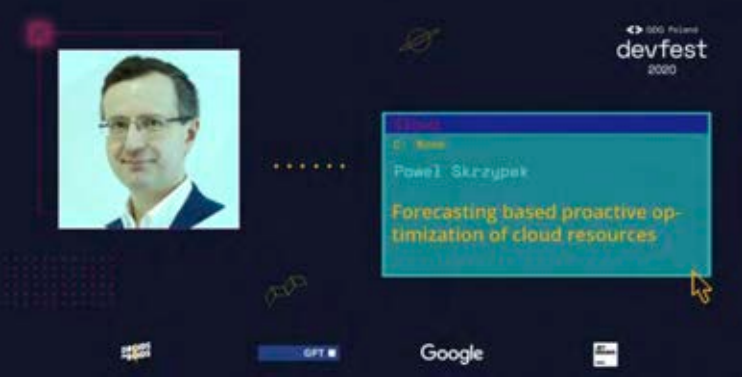
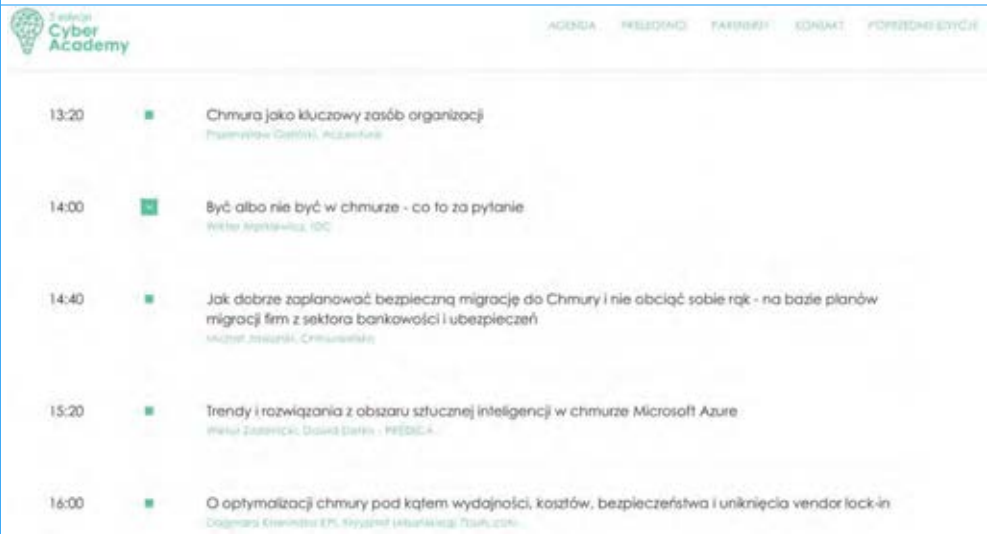| Name of the event	DeveloperWeek Global: Cloud 2020
Place of the event	On-line
Date of the event	2020.09.29
Kind of the event	Business conference
Presenters	• UiO [Marta Różańska] • 7bulls [Paweł Skrzypek]
Outcome	The MORPHEMIC project together with Melodic solution co-created a content of the conference by running a presentation during the Future of Cloud-Native Computing session: 29th of September: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management" by Marta Różańska from University of Oslo and Paweł Skrzypek from 7bulls. Participants of this presentation had an occasion to deepen their knowledge of multicloud and its extension into polymorphic architecture and proactive adaptation. DeveloperWeek Global: Cloud Conference was the premiere international cloud computing conference, where 3,500+ cloud engineers & developers, IT managers, entrepreneurs, and innovators converged to discover newest cloud computing innovations. DeveloperWeek Global: Cloud 2020 was 15,000+ dev professionals for the world's largest virtual conference series with 4+ fully immersive events covering the newest technology

innovations, best practices, and learning across cloud, API, enterprise dev, architecture, DevOps, DevTools, dev management.

The success of this event was the interest among participants and speakers regarding the MORPHEMIC outcomes. We believe that this on-line conference organized during the pandemic period will have a positive impact of the future exploitation of the MORPHEMIC project.

Name of the event	**Teratec'20**
Place of the event	On-line
Date of the event	2020.10.13-2020.10.14
Kind of the event	Business conference
Presenters	• Activeeon [Maxime Compastié]
Outcome	Maxime Compastié from Activeeon has presented the MORPHEMIC project at Teratec Forum 2020. Presentation entitled: "Proactive and polymorphing application adaptation for Cloud and Edge". Teratec brings together over eighty technological and industrial companies, laboratories and research centers, universities and engineering schools, who want to combine their resources in the strategic area of Simulation and High-Performance Computing. The MORPHEMIC presentation was a part of the whole exhibition. During the presentation the vision, key building blocks of the project, as well as technical features and benefits of using MORPHEMIC were showed. Activeeon has exposed how the R&D effort on the polymorphic and proactive adaptation are promising assets for optimizing intensive workloads. The success of this event was the interest among participants and speakers regarding the MORPHEMIC solution & outcomes. We believe that this on-line conference organized during the pandemic constraints will have the positive impact of the future of the MORPHEMIC project.

Name of the event	**Data Science Summit 2020**
Place of the event	On-line
Date of the event	2020.10.16
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]

Outcome	Paweł Skrzypek from 7bulls presented the MORPHEMIC during the keynote "Review of time series forecasting methods". Presentation focused on the review of the latest achievements of machine learning based time series forecasting methods.
	The most advanced methods were briefly presented with overview of the method, key innovative features and benefits of the given method. Paweł presented the following algorithms: ES Hybrid, Facebook Prophet, GluonTS, N-Beats and Tsetlin Machine. Data Science Summit is the largest, independent data science conference in the CEE Region.
	We experienced the success of this event - it was an interest among participants and speakers regarding the MORPHEMIC outcomes. We believe that this on-line conference organized during the pandemic constraints will have the positive impact of the future of the MORPHEMIC project.

Name of the event	DevFest Poland 2020
Place of the event	On-line
Date of the event	2020.10.17
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]
Outcome	The MORPHEMIC was presented by Paweł Skrzypek from 7bulls. Speech entitled: "Forecasting based proactive optimization of cloud resources" highlighted a novel concept of advanced adaptation of cloud resource using predicted demand for Cloud resources with it all benefits.
	The presentation included practical examples of the novel approach to proactive optimization of cloud resources based on dynamic and anticipated use of resources. The prediction of application workload is provided as input to the advanced, machine learning based solvers which calculate the optimal deployment plan for the application to anticipate the future needs.
	Paweł presented the latest state of the art methods used for forecasting, like ES-Hybrid and advanced Monte Carlo Tree Search based solvers which are used to find the optimal solution.
	DevFest 2020 brought together thousands of developers globally and shared passion for Google technologies. For DevFest 2020, Google Developer Groups from Poland came together in a whole new way – virtually for one day.

Name of the event	Cyber Academy, 5th Edition
Place of the event	On-line
Date of the event	2020.10.22
Kind of the event	Business conference
Presenters	• 7bulls [Krzysztof Urbański]
Outcome	Krzysztof Urbański from 7bulls had a presentation entitled: "Optimizing the cloud in terms of performance, cost, security and avoiding vendor lock-in" *["O optymalizacji chmury pod kątem wydajności, kosztów, bezpieczeństwa i uniknięcia vendor lock-in"].* Cyber Academy is a free event that has become a fixture in the calendars of people from the world of business, science, administration and education interested in the subject of new technologies, with particular emphasis on issues in the field of cybersecurity and artificial intelligence. Participants of this presentation had an occasion to deepen their knowledge of the important features of the cloud solution and getting familiar with MORPHEMIC project and its objectives. Questions were answered and interesting discussions on advantages of Multi-cloud environments were held after the event.

Name of the event	**API World 2020**
Place of the event	On-line
Date of the event	2020.10.29
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]

Outcome	The MORPHEMIC together with Melodic co-created a content of the conference by running a presentation: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management" by Alicja Reniewicz and Paweł Skrzypek, both representing 7bulls.

Participants of this presentation had an occasion to deepen their knowledge of multicloud and its extension into polymorphic architecture and proactive adaptation.

API World is the largest virtual conference and expo with the goal of organizing this new API Economy. The API World 2020 Conference and Expo was created with the mission to be neutral and facilitate connections, knowledge, trust and business within the developer community of API providers and consumers.

We believe that this on-line conference organized during the pandemic constraints will have the positive impact of the exploitation of the MORPHEMIC project.

Name of the event	MLConf 2020
Place of the event	On-line
Date of the event	2020.11.06
Kind of the event	Business conference
Presenters	• InAccel [Chris Kachris]

Outcome	Chris Kachris from InAccel presented the FPGA acceleration of machine learning applications and face detection on a cluster of cloud FPGAs. The MORPHEMIC project was presented with key

objectives, benefits and future outcomes. Presentation went virtually.

MLConf is a machine learning conference that gathers the community to discuss the recent research and application of Algorithms, Tools, and Platforms to solve the hard problems associated with organizing and analyzing massive and noisy data sets.

Name of the event	Warsaw Booster'20 [*WITH A HEAD IN THE CLOUD*]
Place of the event	On-line
Date of the event	2020.11.12
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]

Outcome	
	Warsaw Booster'20 is an acceleration program for capital start-ups. The purpose of the accelerator is to support young technology companies in improving their business competences:

https://www.facebook.com/warsawbooster/

This time Warsaw Booster organized a webinar dedicated to the cloud and its possibilities.

During the webinar, speakers discussed about the following topics:

o   How does the use of the cloud increase our efficiency in business?
o   What does cloud optimization mean?
o   How the pandemic period affected business and use of the cloud?

During the webinar Paweł Skrzypek presented the Melodic solution and its extension to MORPHEMIC project and innovative features.

Name of the event	Intel® FPGA Technology Day (IFTD)
Place of the event	On-line
Date of the event	2020.11.18
Kind of the event	Business conference
Presenters	• InAccel [Chris Kachris]
Outcome	

Intel IFTD was a one-day event that showcased the latest Intel FPGA products and solutions through a series of webinars and demonstrations from Intel, partners, and customers.

Chris Kachris from InAccel presented the FPGA acceleration of machine learning applications and face detection on a cluster of Cloud FPGAs. The MORPHEMIC key objectives, benefits and future outcomes were presented to the audience.
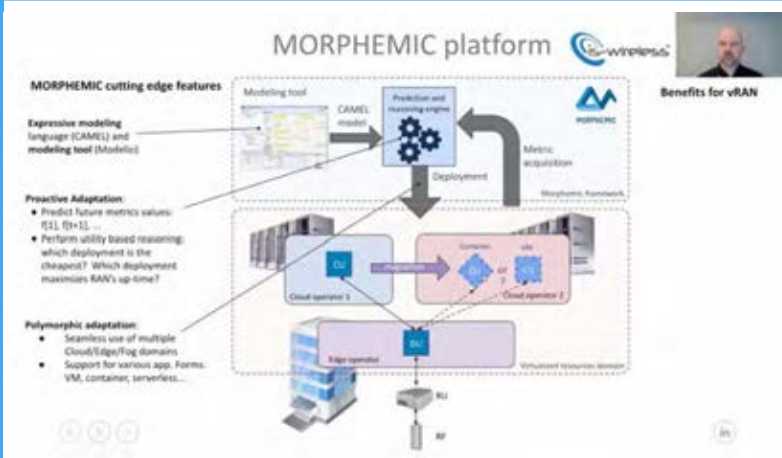
Name of the event	Data Science Conference Europe 2020
Place of the event	On-line

Date of the event	2020.11.18
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]
Outcome	Paweł Skrzypek from 7bulls had a presentation entitled: "Advanced forecasting methods for Investments Portfolio Optimization" of the first complete AI investment platform. It is based on most innovative AI methods: most advanced neural networks and reinforcement learning for risk control and position sizing using Alpha Zero approach. In the presentation the comparison of the latest achievements in machine learning for time series forecasting was presented: Transformer Networks, Dual Attention Networks, Echo state network, etc. The AI Investments solution presented by Paweł Skrzypek uses multicloud approach with Melodic and MORPHEMIC to optimize the machine learning models training at large scale. It also uses serverless for the optimization algorithms. Data Science Conference Europe is one of the largest Data & AI conferences and fastest growing Data & AI community in Europe. It is a Tech-first Data & AI Conference, that connects business, professionals & academia on one place. We experienced the success of this event - it was an interest among participants and speakers regarding the MORPHEMIC outcomes. We believe that this on-line conference organized during the pandemic constraints will have the positive impact of the future exploitation of the MORPHEMIC project.

Name of the event	Globecom2020 - IEEE Global Communications Conference
Place of the event	On-line
Date of the event	2020.12.11
Kind of the event	Business conference
Presenters	• IS-Wireless [Adam Flizikowski]
Outcome	Adam Flizikowski from Is-Wireless had an Industry Podium Pitch entitled: "Utility function-based adaptation of virtual RAN (vRAN) – the future of 5G networks". The MORPHEMIC key objectives, technical aspects as well as benefits and outcomes vital for IS-Wireless as a use case partner, were demonstrated.

	IEEE Global Communications Conference (GLOBECOM) is one of the IEEE Communications Society's two flagship conferences dedicated to driving innovation in nearly every aspect of communications. Each year, more than 3000 scientific researchers and their management submit proposals for program sessions to be held at the annual conference.
	This year GLOBECOM was organized virtual and on-site 7-11.12.2020. The MORPHEMIC presentation went on-line.

Name of the event	**Jakarta TechTalk**
Place of the event	On-line
Date of the event	2021.01.19
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Alicja Reniewicz and Paweł Skrzypek from 7bulls presented the Melodic solution and MORPHEMIC project during the keynote session entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". MORPHEMIC project was presented as an innovative way of cloud resources optimization with polymorphic architecture & proactive adaptation. As an example of that approach the AI Investments application was described. Jakarta Tech Talks is a mix of conference based and virtual webinars dedicated to the discussion and discovery of Jakarta EE and broader Cloud-Native Java technologies.

Name of the event	**The Norwegian Computer Society (DND)**
Place of the event	On-line
Date of the event	2021.01.27
Kind of the event	Business conference
Presenters	• UiO [Geir Horn] • 7bulls [Alicja Reniewicz]
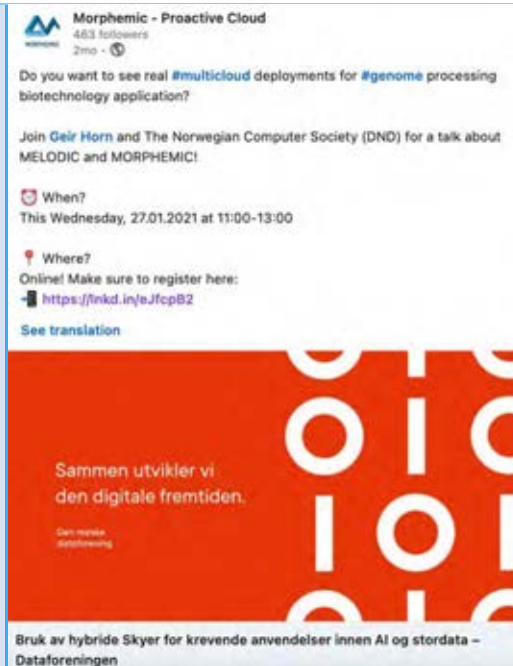
Outcome	The Norwegian Computer Society (DND) has invited Geir Horn from University of Oslo and Alicja Reniewicz from 7bulls to give a presentation about MORPHEMIC project and Melodic solution. The presentation entitled: "Optimized Hybrid Cloud Application Management for AI and Big-Data". It was presented a key objective of the MORPHEMIC project and its innovative features as well how Melodic solution.

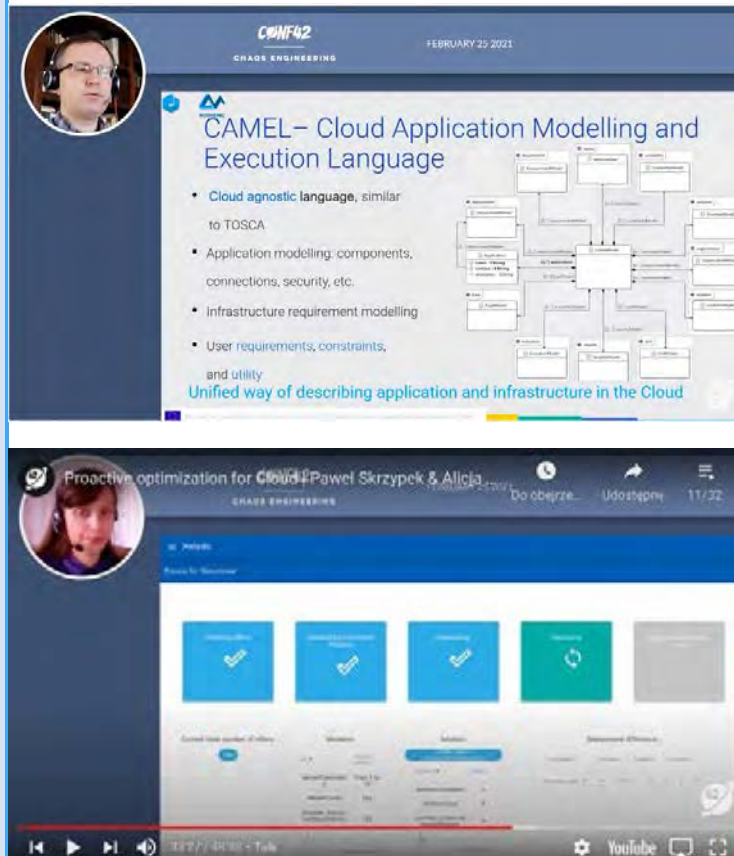|	
Name of the event	**GDG Sacramento Meetup**
Place of the event	On-line
Date of the event	2021.02.12
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Alicja Reniewicz and Paweł Skrzypek from 7bulls gave a presentation regarding the MORPHEMIC project, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Alicja and Paweł presented the novelty of Melodic solution and its extension to the MORPHEMIC proactive optimization. Main presented topics were: o CAMEL - Cloud Application Modelling and Execution Language o Optimization and automation of Melodic o Core Concepts: Polymorph Architecture and Proactive Adaptation As an example of that approach the AI Investments application was shown. The Google Developer Group (GDG) Sacramento provides a forum for anyone in the Sacramento area to meet and discuss Google technologies such as Android, AppEngine, APIs, AngularJS, Polymer, Dart, Go, etc. The event was attended by 13 Google technologies enthusiasts.

Name of the event	Azure Meetup Oslo
Place of the event	On-line
Date of the event	2021.02.22
Kind of the event	Business conference
Presenters	• UiO [Geir Horn] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Alicja Reniewicz & Paweł Skrzypek from 7bulls and Geir Horn from University of Oslo presented Melodic solution and MORPHEMIC project as well as how to use the proactive optimization. As an example of the approach the AI Investments application was shown. The presentation entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". This presentation described how to implement Multi-Cloud native strategies using advanced an open-source framework that allows for Cloud-agnostic Multi-Cloud deployment and optimized management of the serverless applications based on flexible monitoring, context aware maximization of the application owner's utility of the deployed serverless components, and autonomic reconfiguration based on the application's current execution context. Azure Meetup Oslo is a group for anyone interested in Microsoft Azure. The MORPHEMIC session was attended by 34 Microsoft Azure technologies enthusiasts.

Name of the event	**Conf42: Chaos Engineering 2021**
Place of the event	On-line
Date of the event	2021.02.25
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]

Outcome		Alicja Reniewicz & Paweł Skrzypek from 7bulls presented the Melodic solution and MORPHEMIC project with its novelty of using the proactive optimization. As an example of the approach the AI Investments application was shown. Conf42 is Computer Science Conference, during which speakers from all around the world can share their ideas with a larger public, no matter if they are from a multi-billion-dollar giant, a startup, an open-source community or a university.

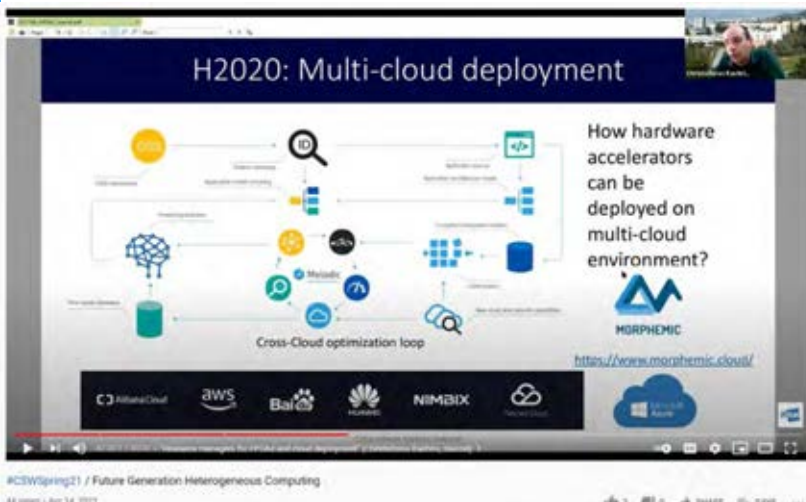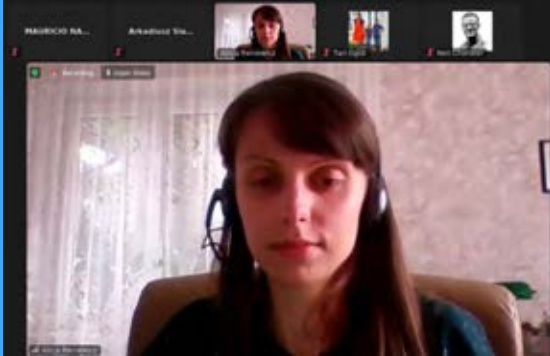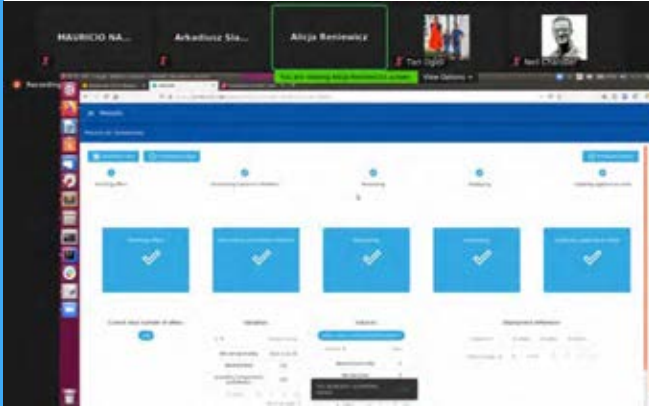|	
Name of the event	**Blueprint LDN - The UK's Cloud-Native Architecture Event**
Place of the event	On-line
Date of the event	2021.03.10
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	 The MORPHEMIC project was presented at the UK's Enterprise Cloud-Native Event virtual conference [LDN Blueprint] during the special session: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Alicja Reniewicz & Paweł Skrzypek from 7bulls presented the novelty of the MORPHEMIC project and Melodic solution as well as how to use the proactive optimization and polymorphic adaptation. AI Investments application was shown as an example of using Melodic approach.

Name of the event	Open-Source Community Conference (OSCONF) 2021
Place of the event	On-line
Date of the event	2021.04.10
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]
Outcome	An Open-Source Community Conference (OSCONF) is a platform built to connect & bring all leading Meetup Communities, Cloud-native experts and DevOps. It is a non-profit community event that allows to interact with community leaders, ambassadors and open community contributors. The event took place on April 10 from 9.00 am to 2:30 pm IST. Paweł Skrzypek from 7bulls had a speech about "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Over 1200 developers participated in the session.

Name of the event	**HIPEAC Computing System Week, Spring 2021**
Place of the event	On-line
Date of the event	2021.04.13
Kind of the event	Business conference
Presenters	• InAccel [Chris Kachris]
Outcome	HiPEAC organizes four networking events per year: the HiPEAC Conference, two Computing Systems Weeks and a Summer School. During the computing System Week, major startups, SMEs and large companies presents their main research efforts. During this HIPEAC computing system week, InAccel presented in the "Future Generation Heterogeneous Computing" session the novel InAccel "Resource managers for FPGA cloud deployment".

	During this session Chris Kachris from InAccel presented its research efforts on MORPHEMIC for easy deployment of FPGAs on multi-cloud platforms.
	More than 90 people attended the event online.

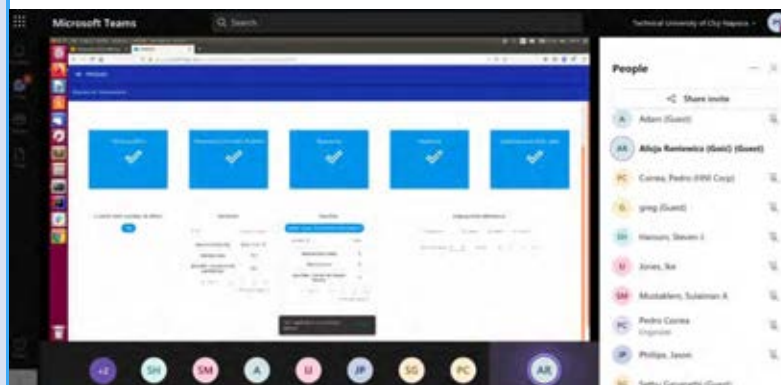| Name of the event	UKOUG Spring Tech Summit
Place of the event	On-line
Date of the event	2021.04.20
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	UK Oracle User Group organized a virtual event, which took place on 20 and 22 April 2021. It was a first Technology Summit paved the way for UKOUG's virtual event program. 20th of April at 14.00 BST Pawel Skrzypek and Alicja Reniewicz gave a presentation on the topic "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". We experienced the success of this event - it was an interest among participants and speakers regarding the MORPHEMIC outcomes. We believe that this on-line conference organized during the pandemic constraints will have the positive impact of the future exploitation of the MORPHEMIC project.

Name of the event	Indianopolis Azure Group
Place of the event	On-line
Date of the event	2021.04.22
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]

<table>
<tr><td rowspan="3">Outcome</td><td></td></tr>
</table>

Alicja Reniewicz and Paweł Skrzypek from 7bulls presented the Melodic solution and MORPHEMIC project during the keynote session entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management".

MORPHEMIC project was presented as an innovative way of cloud resources optimization with polymorphic architecture & proactive adaptation.

The Azure Indy User Group is a community user group counting +650 attendees located in Indianapolis, Indiana. The group is focused on all things Azure and aims to build the local Azure community in cloud areas such as infrastructure, security, big data and artificial intelligence.

Name of the event	Women in Data Science Miami
Place of the event	On-line
Date of the event	2021.04.23
Kind of the event	Business conference
Presenters	• 7bulls [Katarzyna Materka]
Outcome	Katarzyna Materka from 7bulls presented the Melodic solution and MORPHEMIC project during the keynote session entitled: "Complex AI Forecasting Methods for Investments Portfolio Optimization". Katarzyna presented the novelty of the MORPHEMIC project and Melodic solution as well as how to use the proactive optimization and polymorphic adaptation. AI Investments application was shown as an example of using Melodic approach.

The Global Women in Data Science (WiDS) Conference aims to inspire and educate data scientists worldwide, regardless of gender, and support women in the field. WiDS Miami is an independent event organized by the Group for Resilient and Inclusive Tech (G.R.I.T) to coincide with the annual Global Women in Data Science (WiDS) Conference held at Stanford University and an estimated 150+ locations worldwide.

This one-day technical conference provided an opportunity to hear about the latest data science-related research in a number of domains, learnt how leading-edge companies are leveraging data science for success, and connected with potential mentors, collaborators, and others in the field.

We believe that this conference organized during the pandemic constraints will have the positive impact of the exploitation of the MORPHEMIC project.

Name of the event	Conf42: Cloud Native 2021
Place of the event	On-line
Date of the event	2021.04.29
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Conf42: Cloud Native belongs to the big family of the Conf42 Quality Tech Conferences. Alicja Reniewicz and Paweł Skrzypek presented MORPHEMIC project during the session entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". It was a big interest among the audience regarding the project powered by a single universal platform for optimized deployment and management of applications in the cloud – Melodic.

Conf42 Cloud Native is Computer Science Conference, during which speakers from all around the world are sharing their ideas with a larger public: they are from multi-billion-dollar giant companies, startups, an open-source communities and universities.

4.3.2   Business workshops

Name of the event	DevOps Support for Cloud FPGA Platforms, FPL 2020
Place of the event	On-line
Date of the event	2020.09.04
Kind of the event	Business workshop
Presenters	• InAccel [Chris Kachris]
Outcome	InAccel organized together with IBM and ETHZ the workshop of DevOps support for Cloud FPGA Platforms. The workshop took place virtually September 4th, 2020, 14:00-17:00 CEST. The main goal of this workshop was to highlight the challenges, which a Cloud application developer faces when designing, implementing, deploying and debugging Cloud services on Cloud FPGA platforms. One important aspect is portability and scalability of designs across different Cloud providers and target platforms. During the event 210 people registered and attended the event.

Name of the event	H-CLOUD Summit 2020 workshop
Place of the event	On-line
Date of the event	2020.11.25
Kind of the event	Business workshop
Presenters	• 7bulls [Alicja Reniewicz] • Softeam [Alessandra Bagnato]

	• ICCS [Yiannis Verginadis] • Activeeon [Maxime Compastié, Nebil Marbrouk]
Outcome	 On 25 & 26 November 2020, H-CLOUD organized its first major community event: The virtual edition of Horizon Cloud Summit 2020. The MORPHEMIC project had a session 25 November 2020 entitled: "Proactive and polymorphic adaptation of multi-cloud deployments" presented by: Alicja Reniewicz (7bulls), Alessandra Bagnato (Softeam), Yiannis Verginadis (ICCS), Maxime Compastié (Activeeon), Nebil Marbrouk (Activeeon). Aim of the event was to gather researchers and innovators, Cloud stakeholders, as well as Cloud initiatives and projects to be on top of the relevant technology and market developments. The MORPHEMIC project is a part of the HORIZON CLOUD [H-CLOUD] as a European Commission initiative that aims to consolidate and grow the Cloud Computing research and innovation community in Europe. It associates projects under Coordination & Support and Research & Innovation Actions, bringing together innovators, policy makers, cloud computing research, industry and users into an open, participatory and sustainable forum. During the MORPHEMIC session 30+ participants were registered and actively participated.

Name of the event	**H-CLOUD Technical Community Event**
Place of the event	On-line
Date of the event	2021.03.23
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska, Geir Horn] • FORTH [Kyriakos Kritikos]

	H-CLOUD organized 1st Technical Community Event for the European Cloud Scene.
	MORPHEMIC had 2 sessions:
	11:30 – 11:45 MORPHEMIC: Cloud modelling, presented by:
	Marta Różańska (UiO)
	Kyriakos Kritikos (FORTH)
Outcome	
	11:45 – 12:00 MORPHEMIC: Cloud optimization, presented by:
	Marta Różańska (UiO)
	Geir Horn (UiO)
	H-CLOUD organized a Technical Community Event for the European Cloud Scene. During this event, Cloud Computing projects funded under the European Union's Horizon 2020 Research and Innovation Program as well as other stakeholders from the Cloud ecosystem presented technical outcomes of their
	Cloud projects. Topics discussed during the community event range from Cloud modelling and optimization to edge computing, unikernels, DevOps practices, and green Cloud.
	During the 2 MORPHEMIC sessions 30+ participants were registered and actively participated.

A total of 26 business conferences, including open-source community events, as well as 3 business workshops have featured the MORPHEMIC project. Events were in majority organized via on-line platforms with participants from all over the world from various countries and continents.

4.3.3 Planning business events

The Consortium partners are planning an intensive communication campaign, including active participation and the presentation of the MORPHEMIC project at business conferences, workshops, webinars and other possible forms of the project presentation during the next period of the project.

Planning business conferences already confirmed by organizers:

Name of the event	**DevOps Pro Europe 2021**
Place of the event	On-line
Date of the event	2021.05.11
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "Forecasting based proactive optimization of cloud resources". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**DevOps Pro Europe 2021**
Place of the event	On-line
Date of the event	2021.05.12
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**DeveloperWeek Global: Management 2021**
Place of the event	On-line
Date of the event	2021.05.12
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "The complete multi cloud management platform". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	17th International Conference on Open-Source Systems (OSS 2021)
Place of the event	On-line
Date of the event	2021.05.12
Kind of the event	Business conference
Presenters	• 7bulls [Konrad Wawruch]
Outcome	Presentation will be conducted, entitled: "The Melodic project: a business story". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	Conf42: Python 2021
Place of the event	On-line
Date of the event	2021.05.27
Kind of the event	Business conference
Presenters	• 7bulls [Anna Warno, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Complex AI Forecasting Methods for Investments Portfolio Optimization". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	DevOpsCon Berlin 2021
Place of the event	On-line
Date of the event	2021.06.17
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "Proactive and polymorphic adaptation of multi-cloud deployments". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	Data Science Summit ML Edition 2021
Place of the event	On-line
Date of the event	2021.06.18
Kind of the event	Business conference
Presenters	• 7bulls [Anna Warno, Paweł Skrzypek]

Outcome	Presentation will be conducted, entitled: "Complex AI Forecasting Methods for Investments Portfolio Optimization". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan*"[M36].

Name of the event	**2021 Cyberjutsu Con: Securing the Future**
Place of the event	On-line
Date of the event	2021.06.19
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**Ya!vaConf 2021**
Place of the event	On-line
Date of the event	2021.06.24
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Proactive and polymorphic adaptation of Multi-cloud deployments". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**OW2con'21**
Place of the event	On-line
Date of the event	2021.06.24
Kind of the event	Business conference
Presenters	• Softeam [Alessandra Bagnato] • ICCS [Yiannis Verginadis] • 7bulls [Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "The MORPHEMIC Project – advanced polymorphic and proactive Cloud Computing resources adaptation project". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**DevopsDays Medellin 2021**

Place of the event	On-line
Date of the event	2021.07.30-2021.07.31
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**WorldFestival 2021**
Place of the event	On-line
Date of the event	2021.08.17-2021.08.19
Kind of the event	Business conference
Presenters	• 7bulls [Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "It is time for multi-cloud: trends and technologies". Outcomes of this session as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**FPL2021 [2nd workshop on DevOps Support for Cloud FPGA platforms]**
Place of the event	On-line
Date of the event	2021.08.30
Kind of the event	Business workshop
Presenters	• InAccel [Chris Kachris]
Outcome	Workshop will be conducted, entitled: "Seamless FPGA DevOps on Multi-cloud deployments". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**European Identity and Cloud Conference 2021**
Place of the event	On-line
Date of the event	2021.09.13-2021.09.16
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "Proactive and polymorphic adaptation of multi-cloud deployments". Outcomes of this session as well as further information about the

	participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	DevOpsCon New York 2021
Place of the event	On-line
Date of the event	2021.09.27-2021.09.30
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Outcomes of this session as well as further information about the participants and results of this business event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	DevOpsCon New York 2021
Place of the event	On-line
Date of the event	2021.09.27-2021.09.30
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska] • 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "Proactive and polymorphic adaptation of multi-cloud deployments". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	Open Source Automation Days 2021 OSAD
Place of the event	On-line
Date of the event	2021.10.04-2021.10.06
Kind of the event	Business conference
Presenters	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Presentation will be conducted, entitled: "Autonomous Multi-Cloud Serverless Deployment and Optimized Management". Outcomes of this session as well as further information about the participants and results of this business event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	Open Source Automation Days 2021 OSAD
Place of the event	On-line
Date of the event	2021.10.04-2021.10.06
Kind of the event	Business workshop
Presenters	• UiO [Marta Różańska]

	• 7bulls [Alicja Reniewicz, Paweł Skrzypek]
Outcome	Workshop will be conducted, entitled: "Forecasting based proactive optimization of cloud resources". Outcomes of this workshop as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

4.4 Mainstream Media

MORPHEMIC project deservers a wider audience and visibility, that is why it is planned to use the mainstream media to spread the MORPHEMIC tangible results and created project vision.

During the first year of the project consortium has planned and successfully executed the way of mainstream project results in the wider spectrum.

The MORPHEMIC project has a success by being presented in the HiPEACInf62 magazine[16].

MORPHEMIC project was presented in the HiPEACInf62 magazine in the section of innovation Europe: *The latest in our series on cutting-edge research in Europe showcases the range of computing systems research that is funded by the European Commission.* The author of the article is Alessandra Bagnato from Softeam.

4.5 Other types of communication

The MORPHEMIC project explores other means of communication and dissemination in order to broaden the public's awareness of the project and its results:

- **Clustering**: A major objective of MORPHEMIC is to build and promote synergies with other existing European initiatives and networks and with similar European projects funded under the same call. The MORPHEMIC has already established working relationship with:
  - *Horizon CLOUD, The European Cloud Computing Hub[17]*
    Each month Horizon CLOUD is organizing *H-CLOUD Communication Task Force meeting*. 7bulls actively participated in all meetings, which were 9 until 30 April 2021.

  - *Rainbow project[18]*
    MORPHEMIC & Rainbow organized together *1st Technical workshop* 14 April 2021. The idea of this 1-hour workshop was to focus on technical and research topics addressed in the two projects. First round was conducted by Rainbow presented the technical solutions of the project and potential collaboration between 2 projects. It is planned to organize workshops, meetings and webinars together in order to strengthen the synergy between the MORPHEMIC and Rainbow.

  - *ReachOut project[19]*
    MORPHEMIC & ReachOut collaboration started with a first ReachOut webinar presentation organized 16 March 2021. The ambition of the ReachOut Project is to connect research project with beta testers and early users on the market and to help out to manage projects' beta-testing campaigns. During the 1st webinar it was decided to follow up the collaboration with a beta testing campaign on the Camel Designer component and on MORPHEMIC 1.5 release, both to be expected to start at the end of June. Another webinar between MORPHEMIC partners, mainly technology feature leaders and use case partners, and ReachOut team is planning on 19 May 2021 to have the time to prepare the testing campaign content before end of June (e.g., start drafting the testing scenario, customizing the feedback survey, etc.).

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[16] HiPEACInf62 magazine
[17] HORIZON CLOUD, The European Cloud Computing Hub
[18] Rainbow project
[19] ReachOut project

- o Geir Horn, the MORPHEMIC coordinator, is in the **HUB4CLOUD[20] Strategic Coordination Board** (SCB). There has been an initial meeting aiming to prioritize the topics for the strategic agenda on Cloud computing challenges to be elaborated by HUB4CLOUD. The future of this work will be important for the evolution of the MORPHEMIC platform.

- o *ACCORDION[21]*
  Geir Horn has also had several meetings with the coordinator of the ACCORDION project Dr. Patrizio Dazzi to explore future collaboration opportunities between the two projects. Most likely this may be in the form of a joint project initiative involving partners from both projects, although it is currently too early to see the outcome of this collaboration. The exploration will continue in the autumn 2021.

- **Videos**, which are used as promotional materials and the best way of project results presentation.
  - o 3 use cases videos were prepared in order to communicate and disseminate the project outcomes.

- **Webinars:** MORPHEMIC partners are going to organize webinars in the topic of multicloud, cloud resources optimization, polymorphic architecture & proactive adaptation, vendor selection, optimization, multi-cloud environments, hybrid & digital infrastructures, etc.
  - o 1st webinar is going to be organized by UiO and 7bulls: 5 May 2021 from 10:00 to 12:00, entitled: "Break out of Matrix, free your mind and enter into the Multicloud World". Speakers: Marta Różańska from UiO, Katarzyna Materka, Alicja Reniewicz, Paweł Skrzypek and Maciej Riedl from 7bulls.
  - o 2nd webinar is going to be organized by UiO and 7bulls: 22 June 2021 from 16:00 to 17:30, entitled: "Matrix Reloaded – Multi-Cloud is coming back!". Speakers: Marta Różańska from UiO, Katarzyna Materka, Alicja Reniewicz, Paweł Skrzypek and Maciej Riedl from 7bulls.

4.6   Communication Plan

MORPHEMIC partners are using a professional B2B *Communication Plan* in order to support exploitation of the project outcomes. MORPHEMIC partners are planning the communication activities with the great care of defining the right target audiences. 7Bulls is leading and managing the Communication activities planning with all consortium partners. In accordance with the project proposal and approved budget, all partners have committed 1,5% of their overall budget to spend toward B2B communication project activities.

Every month at the WP7/WP8 zoom status meetings, partners discuss the communication activities to be held quarterly and eventually agreed upon by all parties during the monthly Technical Management Committee [TMC] meeting.

- **Strategic goals:**
  - o Make the research carried out under MORPHEMIC and the EU funding more visible,
  - o Gain understanding and support from scientific community, potential industrial partners and society,
  - o Encourage the take-up of the open-source code by a critical number of external developers,
  - o Incorporate a feedback loop with the target audience for continuous improvement of results,
  - o Attract potential users of the MORPHEMIC results,
  - o Publicize the results in order to identify potential new l use cases and application domains,
  - o Share knowledge and strengthen the innovation landscape in Europe.

- **Operational goals:**
  - o Define a common strategy and plan to help the partners identify issues that should be communicated,
  - o Plan and coordinate the communication efforts throughout the project,
  - o Set targeted audiences, key messages and principal media for specific communication activities.

- **Target audience and key message**
  - o Internal audience – members of the consortium,
  - o Developers, ISV, providers and integrators of dynamic data-intensive Cloud applications,
  - o SMEs, start-ups, large companies and public organizations,

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[20] HUB4CLOUD
[21] ACCORDION project

- o Cloud and Big Data Research Community,
- o Cloud providers and brokers,
- o Community of developers working in IoT, cloud/edge/distributed computing,
- o End users and general public.

The key value of the MORPHEMIC project is the unique concept of the polymorphic architecture and proactive adaptation, making it possible for dynamic Cloud applications to run seamlessly in different configurations based on automatic prediction of workload. It is a complete solution for deployment and adaptation of Cloud applications, widely available as open-source software. The key message will be adjusted to different audience groups based on the level of technical expertise.

The communication will also be tailored to the perspective of each audience group, covering one or more of the following aspects:
- Awareness of the project objectives, general concept and achieved results,
- Understanding of the proposed innovation,
- Actions related to delivering feedback, validation and use of results, engagement in the project community.

5   Dissemination activities reporting and planning

5.1   Publication list - reporting

According to the research nature of the MORPHEMIC project, partners were involved into the innovative tasks related to the scientific activities with the objective of bringing state of the art methods and contributing to the community by offering advanced techniques developed for the MORPHEMIC project.

The Table 4 below contains the publications which have been registered during the first 16 months of the project.

The status field contains 3 different values:
- *Accepted* status means that the publication is accepted to a conference or a journal,
- *Submitted* status means that the publication is submitted to a conference or a journal,
- *On-going* status means the editing already started / probably finished / the publication already submitted to a conference or journal. However, the acceptance decision has not been delivered yet.

Table 4 Publication list

Publication	Status
Extending TOSCA for Edge and Fog Deployment Support This publication presents a set of Topology and Orchestration Specification for Cloud Applications (TOSCA) extensions to model applications relying on any combination of the aforementioned technologies. Publication available at: https://doi.org/10.3390/electronics10060737 Authors: Andreas Tsagkaropoulos (ICCS), Yiannis Verginadis (ICCS), Grigoris Mentzas (ICCS), Maxime Compastié (Activeeon).	**Accepted**
Real-time adaptable resource allocation for distributed data-intensive applications over cloud and edge environments This publication presents an approach exploited on the MORPHEMIC where the application model is constructed enabling a dynamic manner of allocating resources for maximizing the cloud/edge application. Publication has been presented during the scientific conference, entitled: *IEEE CCEM 2020 9th IEEE International Conference on Cloud Computing in Emerging Markets*. Presenter: Jean-Didier Totow (UPRC). Publication available at: https://easychair.org/publications/preprint_open/ZRSc Author: Jean-Didier Totow (UPRC).	**Accepted**

Data and Cloud Polymorphic Application Modelling in Multi-clouds and Fog Environments This publication presents the modelling approach used in Morphemic for application in a multi-clouds and fog environment. Paper will be presented during the scientific conference, entitled: *33rd International Conference on Advanced Information Systems Engineering.* Presenter: Yiannis Verginadis (ICCS). Authors: Yiannis Verginadis (ICCS), Ioannis Patiniotakis (ICCS), Kyriakos Kritikos (FORTH).	**Accepted**
Mapping grip force to motor networks This publication presents the application of the neuroimaging tools with Proactive workflow for large scale study. Publication available at: https://doi.org/10.1016/j.neuroimage.2021.117735 Authors: Ferath Kherif (CHUV), Ladina Weitnauer, Stefan Frisch, et al.	**Accepted**
Apolipoprotein E4 effects on topological brain network organization in mild cognitive impairment This publication presents the use case brain science-application of the neuroimaging pipeline with Proactive workflow. Publication available at: http://doi.org/10.1038/s41598-020-80909-7 Authors: Ferath Kherif (CHUV), Gretel Sanabria-Diaz, Lester Melie-Garcia, et al.	**Accepted**
Medical Informatics Platform (MIP): A Pilot Study Across Clinical Italian Cohorts This publication presents the application of the neuroimaging pipeline with Proactive workflow. Publication available at: https://doi.org/10.3389/fneur.2020.01021 Authors: Ferath Kherif (CHUV), Alberto Redolfi, Silvia De Francesco, et al.	**Accepted**
Remodeling of brain morphology in temporal lobe epilepsy This publication is based on a neuroimaging application exploiting Proactive workflow. Publication available at: https://doi.org/10.1002/brb3.1825 Authors: Ferath Kherif (CHUV), Elisabeth Roggenhofer, Sandrine Muller, et al.	**Accepted**
Morphemic cloud application model design This publication presents the MORPHEMIC Camel Designer tool responsible of the Cloud Application Modelling and Execution Language (CAMEL) design for the modelling Environment Modelio. Publication will be presented during the scientific conference, entitled: *1st Eclipse Research International Conference on Security, AI, Architecture, and Modelling for Next Generation Mobility.* Presenter: Alessandra Bagnato (Softeam). Authors : Alessandra Bagnato (Softeam), Etienne Brosse (Softeam), Kaïs Chaabouni (Softeam).	**Accepted**
Template cloud utility function modelling for autonomic computing This publication presents an approach consisting of maximizing the application owner's utility given an execution context. Publication is submitted on a scientific conference, entitled: *2nd IEEE International Conference on Autonomic Computing and Self-Organizing Systems - ACSOS 2021.* Author: Marta Różańska (UiO).	**Submitted**
Using optimization constraints to minimize the adaptation cost of Cloud applications	**On going**

This publication will present an approach for Cloud adaptation where the reconfiguration cost is included into the constraint problem. The publication will cover the work of UiO and ICCS in *Task 3.3 Model adaptation*.	
Algorithmes for real-time performance analysis, prediction and enhancement for distributed applications over cloud and fog / edge environments This publication will present different advanced algorithms used on the MORPHEMIC project for analysing Cloud applications performance and prediction the workload. Author: Jean-Didier Totow (UPRC).	**On going**
Bayesian Fusion for Distributed and Clinical Data Sources : Methods, Application and Reference Cloud Architecture This publication will present the MORPHEMIC's capability of supporting federated learning methods by managing in a distributed manner the underlying infrastructure. Author: Ferath Kherif (CHUV).	**On going**
Self-adaptive Multi-Cloud Infrastructure Design for Ultra-dense 5G and Beyond Networks This publication will present a novel architecture to support 5G and beyond use cases. Author: Adam Flizikowski (IS-Wireless).	**On going**

5.2　Publication list - planning

Additional publications, according to challenges encountered and potential improvements of the MORPHEMIC functionalities, will be presented:

1. ***Polymorphic Modelling of Cloud Applications*** – Author: UiO
Potential scientific conferences, on which publication can be presented:
   - European Conference on Service-oriented and Cloud Computing (ESOCC)
   - International Conference on Cloud Computing (CLOUD)
   - International Symposium on Cluster, Cloud and Grid Computing (CCGRID)

2. ***Client-concentration based deployment*** - Author: UPRC
Potential scientific conference, on which publication can be presented:
   - International Conference on Cloud Computing (CLOUD)

3. ***Metric Utility Function Construction for Cloud application*** – Author: UiO
Potential scientific conference, on which publication can be presented:
   - International Conference on Autonomic and Self-Organising Systems (ACSOS)

4. ***Proactive adaptation of Cloud computing applications –*** Author: UiO
Potential scientific conference, on which publication can be presented:
   - International Conference on Autonomic and Self-Organising Systems (ACSOS)

5. ***Code classification by software graph similarities with machine learning*** - Author: UiO
Potential scientific conference, on which publication can be presented:
   - International Conference on Software Engineering (ICSE)

6. ***Architecture for proactive and polymorphic optimisation of Cloud applications*** - Author: UiO
Potential scientific conference, on which publication can be presented:

- not defined yet

7. ***Application workflow on abstract resources*** - Author: UiO
Potential scientific conference, on which publication can be presented:
- not defined yet

8. ***Polymorphic application deployment optimization*** - Author: UiO
Potential scientific conference, on which publication can be presented:
- not defined yet

9. ***Using optimization constraints to minimize the adaptation cost of Cloud applications*** - Author: UiO
Potential scientific conference, on which publication can be presented:
- not defined yet

10. ***Optimising affine utility function weights by reinforcement learning*** - Author: UiO
Potential scientific conference, on which publication can be presented:
- not defined yet

5.3 Scientific events

Within the period covered by deliverable, the MORPHEMIC partners have already participated in the scientific conferences, workshops and webinars presented the MORPHEMIC research outcomes.

5.3.1 Scientific conferences

Name of the event	**IEEE CCEM 2020** **9th IEEE International Conference on Cloud Computing in Emerging Markets**
Place of the event	On-line
Date of the event	2020.11.04 - 2020.11.07
Kind of the event	Scientific conference
Presenters	• UPRC [Jean-Didier Totow]

During the 9th edition of IEEE CCEM 2020, a paper has been presented by Jean-Didier Totow from UPRC exploring an important MORPHEMIC functionality, which consist of predicting the performance of a cloud application given a specific configuration. The paper entitled "Real-time adaptable allocation for distributed data-intensive applications over cloud and edge environments".

Name of the event	**Norway Brazil Weeks: VIII November Conference** **Decommissioning and P&A Session**
Place of the event	On-line
Date of the event	2020.11.10
Kind of the event	Scientific conference
Presenters	• UiO [Marta Różańska, Geir Horn]
Outcome	During this year's sessions of Norway Brazil Weeks, MORPHEMIC together with Melodic co-created a content of the conference by running a presentation entitled: "Recent advances and opportunities in cloud deployment" by Marta Różańska and Geir Horn from University of Oslo. Participants of this presentation had an occasion to deepen their knowledge of multicloud, optimizing the cloud in terms of performance, cost, security and avoiding vendor lock-in. Norway Brazil Weeks main objective is to create meeting places to strengthen and develop the cooperation between both countries through an agenda of several events and meetings within different areas. The NBWs is also an arena where Norwegian SME's can actively engage with business partners, clients and technology leaders.

Name of the event	**Plenary meeting organized by WHO and UN-ITU on the topic of AI for healthcare (12th Meeting)**
Place of the event	On-line
Date of the event	2021.05.19-2021.05.21
Kind of the event	Scientific conference
Presenters	• CHUV [Ferath Kherif]
Outcome	Two presentations will be conducted: one focused on data sharing and data sourcing, the second detailed the work to apply AI for disease diagnosis in neurodegenerative diseases. In both presentations the MORPHEMIC project will be presented. Further outcomes of the plenary conference as well as further information about the participants and results of the event will be reported in the D7.2 "Final Dissemination and Communication Report and Plan" [M36].

5.3.2 Scientific workshops

Name of the event	**ACSOS 2020** **IEEE International Conference on Autonomic Computing and Self-Organizing Systems**
Place of the event	On-line
Date of the event	2020.08.21
Kind of the event	Scientific workshop
Presenters	• UiO [Marta Różańska, Geir Horn]
Outcome	MORPHEMIC together with Melodic co-created a content of the tutorial entitled: "Autonomous Multi-Cloud Application Deployment and Optimized Management Using Open-Source Frameworks" by Marta Różańska and Geir Horn from University of Oslo. Participants of this tutorial had an occasion to deepen their knowledge of multicloud, also through hands-on exercises. CSOS is a brand-new event of ieee.org – one of the tech industry leaders. Their numerous conferences focus crowds of experts and practitioners. The entire 1st edition of ACSOS was held online. **Agenda of the tutorial:** **Session I 10:00-12:30 EST** **Introduction to Multi-Clouds and Modelling Cloud Applications** o Welcome, Agenda o Introduction to Multi-Cloud optimization, MAPE-K loop applied in Cloud optimization

	o Survey of the latest research and the existing tools o Step by step modeling Cloud application and designing utility function for Cloud application **Session II 13:30-16:00 EST** **Multi-Cloud Deployment, Monitoring, and Adaptations** o Overview of Melodic Multi Cloud Management Platform and extensions in MORPHEMIC o Hands-On: Installing MELODIC platform; materials o Hands-On: Autonomous Optimization in the Cloud; materials o Existing Research Challenges and Summary

Name of the event	Short lecture at Warsaw University
Place of the event	On-line
Date of the event	2021.01.18
Kind of the event	Scientific workshop
Presenters	• UiO [Marta Różańska]
Outcome	Marta Różańska from University of Oslo gave a presentation for a group of students from University of Warsaw regarding research challenges in the MORPHEMIC project – mostly the ways how the project solves complex optimization problems.

5.3.3   Scientific webinars

Name of the event	Webinar with Melodic organized by Project Management Institute, Norway Chapter
Place of the event	On-line
Date of the event	2021.02.10
Kind of the event	Scientific webinar
Presenters	• UiO [Geir Horn]
Outcome	Geir Horn from University of Oslo presented Melodic solution at the dedicated webinar, which covered topics such as: o A brief introduction to the MELODIC platform o The vision and objectives of the project o The project organization and planning o The management structure needed to ensure timely progress o The tools used and lessons learned from the management of such a complex collaborative development.

| | Furthermore, the MORPHEMIC project was presented as an extension of the MELODIC solution. |

5.3.4   Planning scientific events

Consortium partners are planning dissemination activities, including actively participation and the MORPHEMIC project presentation at scientific conferences, workshops, webinars and other possible forms of the project presentation within the next period of the project:

Name of the event	**Eclipse SAAM Mobility 2021 Security, AI, Architecture and Modelling for Next Generation Mobility**
Place of the event	On-line
Date of the event	2021.06.16
Kind of the event	Scientific conference
Presenters	• Softeam [Alessandra Bagnato, Etienne Brosse, Kaïs Chaabouni]
Outcome	MORPHEMIC publication will be presented, entitled: "Morphemic Cloud Application Models Design". Further outcomes of the conference as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Name of the event	**33rd International Conference on Advanced Information Systems Engineering**
Place of the event	On-line
Date of the event	2021.07.02
Kind of the event	Scientific conference
Presenters	• ICCS [Yiannis Verginadis]
Outcome	MORPHEMIC publication will be presented, entitled: "Data and Cloud Polymorphic Application Modelling in Multi-clouds and Fog Environments". Further outcomes of the conference as well as further information about the participants and results of the event will be reported in the deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36].

Goal	**Paper presentation**
Name of the event	International Conference on Autonomic and Self-Organizing Systems (ACSOS)
Date of the event	2021.09.27 - 2021.10.01

Goal	**Paper presentation**
Name of the event	International Conference on Software Engineering (ICSE)

Date of the event	2022

Goal	Paper presentation
Name of the event	European Conference on Service-oriented and Cloud Computing (ESOCC)
Date of the event	2022

Goal	Paper presentation
Name of the event	International Conference on Cloud Computing (CLOUD)
Date of the event	2022

Goal	Paper presentation
Name of the event	International Symposium on Cluster, Cloud and Grid Computing (CCGRID)
Date of the event	2022

5.4 Research lunch

The MORPHEMIC research lunches were organized in order to exchange knowledge, develop research ideas and to disseminate the technology developed within the project. They are organized by and for project partners both academic and industrial as well as external computer scientists and researchers. Research lunches give an excellent opportunity to meet, discuss and share experiments concerning a subject directly related to the MORPHEMIC project or to one of the domains explored by the MORPHEMIC.

Project consortium have organized 1-hour virtual research lunches in the dedicated period of the deliverable:

- 13 November 2020 – research lunch organized by Geir Horn, project coordinator,
- 30 November 2020 - *Temporal Fusion Transformer experiments* - organized by 7bulls,
- 16 February 2021 - *Tsetlin Machine* – organized by UiO,
- 1 March 2021 - *Prophet Forecasting method* - organized by Activeeon.

Consortium partners will maintain the organization of the research lunches within the next period of the project.

6 Partners' channels

The MORPHEMIC partners are using their personal networks for communication and dissemination of the MORPHEMIC related information and results.

Within the first period of the project (01.01.2020 – 30.04.2021) MORPHEMIC partners have already presented the MORPHEMIC project on their organizational social medias and websites. Below examples of the MORPHEMIC partners activities:
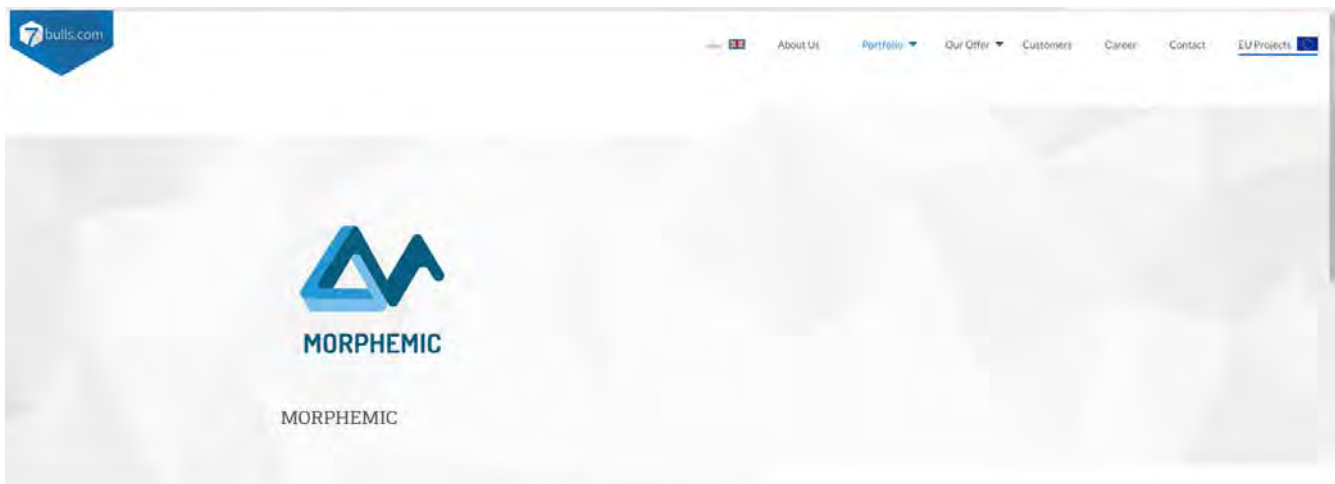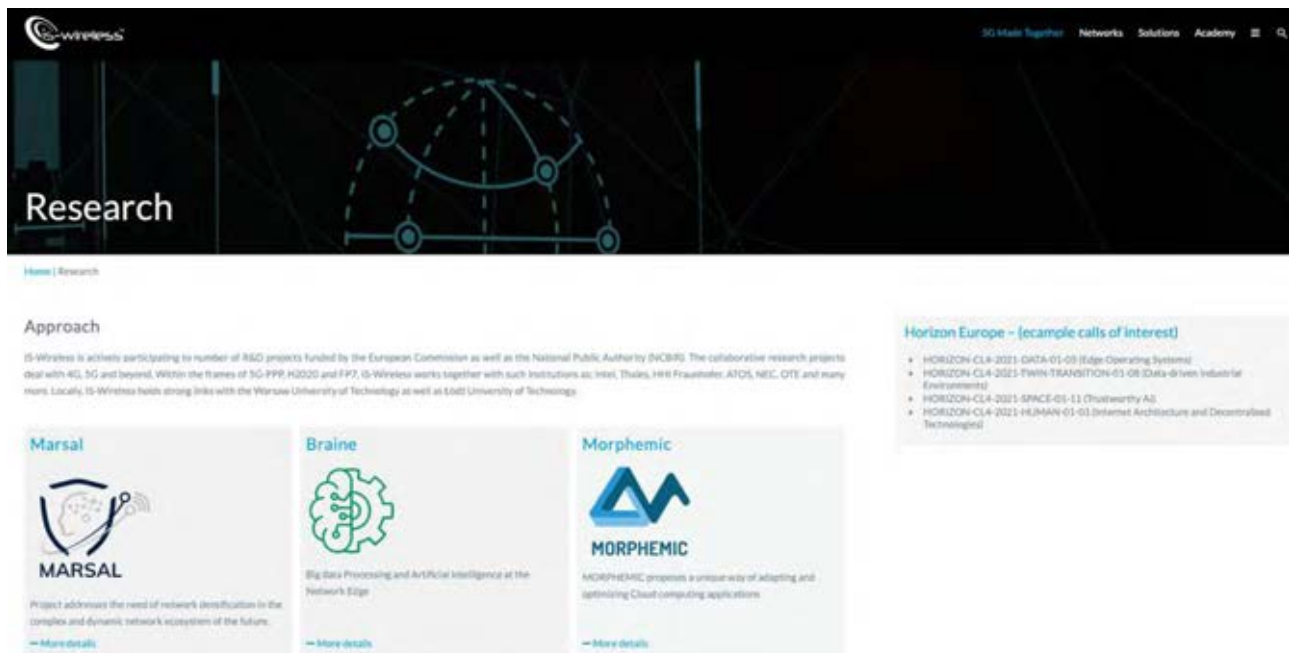
7   Communication and dissemination procedures

For updates and sustainability of the MORPHEMIC communication and dissemination activities, the following procedure has been established:

- Each month a WP7: *Outreach* and WP8: *Exploitation* zoom is organized in order to discuss all dissemination, communication and exploitation aspects of the project. Furthermore, during each WP7/WP8 zoom status organized each moth partners are discussing regarding the communication activities to be held quarterly and finally accepted the idea during the monthly Technical Management Committee [TMC] meeting.

- Dissemination and Communication Activities Area is created on SharePoint in order to control all activities in the project related to dissemination and communication:
  o **Call for papers (scientific)**
    All potential scientific conferences are in one place with: title, dates of the conference, place, organizers, submission deadline, registration deadline, website, comments, acceptance rate.
  o **Call for speakers (business)**
    All potential business events are in one place with: title of the event, organizer, submission deadlines (from/to), information what to submit, website of the event, dates of the event, place (on-line only?), attendees, status (accepted/rejected).
  o **Events accepted (scientific and business)**
    All accepted scientific conferences and business events in one place with: title of the event, event dates, attendees (+organization), type of the event (business/scientific), place (on-line only?), activity (presenter, exhibitor, tutorial/workshop organizer, other), website of the event, status of the event, outcome from the event.
  o **Ideas**
    All ideas from consortium partners, which are discussed during WP7/WP7 zooms, which can wider the information regarding the MORPHEMIC project.
  o **Mainstream Media**
    Consortium idea how and via which channels the project can be presented to the wider audience.
  o **Other Activities**
    Partners other activities, not included in above mentioned communication and dissemination activities.
  o **YouTube**
    Ideas regarding the videos which can be prepared in order to spread the information regarding the project.

- Social Media Planning: the information which should be posted on the MORPHEMIC web portal and social media is provided by partners via e-mail to the Communication Activity Manager or Mattermost channel through *Outreach*. The Communication Activity Manager prepares the message to be published on the MORPHEMIC web portal and social media. The message is published on the relevant channels.

The established procedure assures that all important information is properly communicated among partners and news are published on the most appropriate communications channels by the most suitable person who also takes care of its proper structuring.

8 Communication and dissemination schedule and timing

Table 5 stipulates a schedule for tools and activities to be provided as part of the MORPHEMIC project.

Table 5 Timing for tools and activities

Id	Tool/activity	Description	Timing	Responsibility	Realized	Pending	Planned
1	**Visual identification**	High quality logo of the project.	Month 2	7bulls	✅		
2	**MORPHEMIC website**	An approachable website with high quality design for MORPHEMIC to be more memorable. Extended with formal requirements and a future landing place for all other materials.	Month 2	7bulls	✅		
3	**Direct contact**	Using our networks, on conferences and at work. We plan to have 500+ direct qualified touchpoints with future users and partners.	Month 2+	All partners		✅	
4	**Social media activities**	A continuous, consistent presence that many projects lack. Dialogue and engagement with other social media cloud related players.	Month 2+	All partners		✅	
5	**MORPHEMIC presentation**	A PowerPoint presentation with the core communication package. To be extended constantly with new materials.	Month 3+	7bulls		✅	

6	**Core communication package**	A storytelling package (e.g., used on the MORPHEMIC website).	Month 4+	7bulls		✔	
7	**Participation in business and scientific events**	Utilization of ideas and materials from this list to reach our target audiences. *Communication Plan* of MORPHEMIC was prepared in order to coordinate paid communication activities in the project among partners. Present the MORPHEMIC project on at least 10 conferences/events.	Month 6+	All partners		✔	
8	**Press releases**	Consortium will prepare and publish press releases in selected paper and online magazines to reporting major project developments. 2 press releases per year. *Communication Plan* of MORPHEMIC was prepared in order to coordinate paid communication activities in the project among partners.	Month 9+	Business partners		✔	
9	**Internal dissemination and communication activities**	Dissemination and communication activities organized by and for MORPHEMIC partners and external guests [e.g., research lunches].	Q4 2020+	All partners		✔	
10	**Technical webinars/workshops**	At least 3 workshops/webinars per year (live +	Month 12+	All partners		✔	

		recorded, ~30-60minutes each).					
11	**Publicity engagement**	Engagement with press, bloggers, influencers for mentions (this includes press releases, but on their own they are not usually successful).	Month 12+	All partners		✓	
12	**Search engine targeting/social media paid targeting**	A mix of additional paid services to maximize reach. This includes LinkedIn Ads campaign LinkedIn Ads Test Campaign, Twitter and Facebook campaigns, Google AdWords, and others. A specific mix of services and tactics needs constant testing and focus on results (not on executing "the plan"). *Communication Plan* of MORPHEMIC was prepared in order to coordinate paid communication activities in the project among partners.	Month 12+	Business partners		✓	
13	**Mainstream media/ Digital Media Portals**	Presence in selected mainstream media will be used to achieve the highest possible impact, visibility and credibility among the general public. Twice a year from the 2nd year of the project. *Communication Plan* of MORPHEMIC was prepared in order to coordinate paid	Q1 2021+	Business partners		✓	

		communication activities in the project among partners.					
14	**Extended publications**	At least 40 publications in scientific journals. The research results will be published in leading international scientific journals, with gold access model (whenever possible).	One publication per partner per year plus joint publications, according to schedule of publications (fluid, will change over time; not a fixed plan)	Academic partners		✔	
15	**Presentation and document templates**	For presenting high quality material.	According to schedule of publications (fluid, will change over time; not a fixed plan)	7bulls		✔	
16	**External initiatives**	Partners will engage and actively participate in external initiatives, industry ecosystems and partnering programs offered by relevant bodies, EU projects and standardization bodies.	Ongoing, depending on opportunities; not a fixed plan	All partners		✔	
17	**6 most important business ideas**	A selection of top 6 business ideas related to MORPHEMIC in form of slides, a web package, a social media pack and a short movie (~1 minute).	Month 18+	Use-case partners			✔
18	**6 most important research ideas**	A selection of top 6 research ideas related to MORPHEMIC in form of slides, a web package, a social media pack and a	Month 18+	Academic partners			✔

		short movie (~1 minute).					✓
19	**Promotional videos**	3 short videos (~1 minute). 1 long video - business presentation (~10 minutes). 1 long video - project presentation (~8 minutes).	Month 18+	3 short videos: Use-case partners 1 long video: Business partners			✓
20	**Industry Round Table**	A formula for engagement with future users of MORPHEMIC, without any pressure for commitment for adoption. An enabler for companies to have impact on features and aspects of MORPHEMIC, a valuable feedback for the project and an opportunity to get acquainted with our solution. Onboarding of at least one interested target company, cloud provider or computing focused academic unit.	Month 18+	All partners			✓
21	**MORPHEMIC Kickstart Manual**	A step-by-step manual with screenshots and screencast for lowering the entry barrier.	Month 18+	All partners			✓
22	**Use case partners materials**	12 slide presentations with key insights (suggested: before & after case study) with technical and business details to be reused on social media, the MORPHEMIC website and other channels.	Q4 2021+	Use-case partners			✓

9   Continues evaluation

The evaluation of the dissemination and communication strategy is to be conducted in 3 main areas: in quality, in quantity and in terms of achieved results. The evaluation will let us assess properly whether the strategy is effective and if there is anything we and our partners should amend or change. The process must be continuous and thorough, and all the contributors are required to follow up on arrangements outlined in this document so that we are sure the strategy will succeed. The three main areas of quality, quantity and terms of achieved results are further detailed in the following list:

- **Qualitatively**
    - sampling our target groups and checking if they understand the message (guidance not representative sample).
- **Quantitatively**
    - number of social media interactions,
    - exposure of publications,
    - number of eye-ball-exposure at conferences and industry events,
    - number of press mentions,
    - number of direct touchpoints with potential users of MORPHEMIC.
- **Results related**
    - number of external community contributors and quality of their contributions,
    - number of cloud providers onboard,
    - quality of results from Industry Round Table.

10 Related deliverables

There are two other deliverables directly related to this document:

- Deliverable D8.5 *Final Project Website and Advertising Materials* [M34] is the final version of the sustainability plan for a complete web presence of MORPHEMIC outside of the project. This deliverable will also include the final statistics for the communication and dissemination channels.
- Deliverable D7.2 *Final Dissemination and Communication Report and Plan* [M36] will be a full, updated version of the D7.1 including all activities implemented by consortium partners within the project, e.g., web presence, social channels, various media, scientific publications, scientific and commercial conferences, workshops, trade fairs, as well as on-line activities, like webinars.

11 Conclusions

This deliverable reports on the comprehensive communication and dissemination activities of MORPHEMIC for the project months 1-16.
Section 4 reports on communication activities, including: (a) the MORPHEMIC website launched and on-going presence, (b) social media creation and consistent presence, (c) 26 business conference and 3 business workshops already featured, (d) mainstream media presence, (e) other types of communication: clustering, videos, webinars. The professional B2B *Communication Plan* has been created by 7bulls in order to support communication and dissemination activities in the project and exploitation of the project outcomes. Section 4 ends with planning activities beyond the period of the deliverable.
Section 5 reports on dissemination activities including: (a) publication list, (b) 10 scientific events (conferences, workshops, webinars, research lunches) already featured, (c) planning activities beyond the period of the deliverable.
Section 6 indicates examples how the MORPHEMIC partners communicates about the project on their social media and websites.
Section 7 and 8 indicates the communication and dissemination procedures created with activities realized, pending and planned with partners responsibilities.
Without communication with potential customers and partners, and without disseminating the information about the MORPHEMIC project results, it is as if the whole effort put into this project was never there. An effective and results-

oriented execution of the dissemination and communication strategy depends on deep understanding of context and the potential of the project.

It is our goal to create a mix of actions and materials that have high probability of impact, while being economically justified.

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