

INJECT

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Project Number 732238

Deliverable N°: D2.2

“Sustainable version of the first INJECT ecosystem”

31 December 2017

Version N° 2

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Project funded by the European Union from the EU

H2020 Programme under grant agreement number 732238



Horizon 2020
European Union Funding
for Research & Innovation

Project ref. no.	732238
Project title	INJECT: Innovation in Journalism: Enhanced Creativity Tools

Nature of Deliverable	R = Report
Contractual date of delivery	31 December 2017
Actual date of delivery	31 December 2017
Deliverable number	D2.2
Deliverable title	Sustainable version of the first INJECT ecosystem
Dissemination Level	Public
Status & version	Final: Version 2
Number of pages	44
WP relevant to deliverable	WP2
Lead Participant	UNIG
Author(s)	Andrea Wagemans, Tamara Witschge, Benjamin Andreassen, Lars Nyre, Aleksander Nygård Tonheim
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Keywords	INJECT, ecosystem, users, partners, launch, value, pricing, Norway

Executive Summary

Based on insights gained from pre-launching and growing the initial first ecosystem, this deliverable documents the stable first ecosystem, and the consortium's reflections on its sustainability.

Since September 2017, INJECT has been introduced in Norwegian newsrooms and additional journalists have been trained to use INJECT. This process has been supported by University of Bergen who acted as the tutor and M'Labs as ecosystem manager as documented here. Technical support has been provided by ICCS and City, University of London (Work Package 1). INJECT Norway has been pre-launched to allow for a final round of testing and refining before the official launch in 2018.

This deliverable presents the infrastructure of the INJECT tool as it has been put in the market in Norway, specifically addressing the technical, commercial and communication infrastructure. We discuss how within the Norwegian ecosystem the consortium has rolled out the product to new users within the consortium and document the pre-launch of INJECT in Norway, indicating next steps as documented in the calendar of events of this first ecosystem. We document the way in which the ecosystem has been managed, and present considerations for sustaining the ecosystem and translating the insights from this first ecosystem into lessons learnt for rolling out the product in other markets.

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1 Introduction

As specified in the proposal, Deliverable 2.2. “will document the stable version of the INJECTION ecosystem”, which like Deliverable 2.1. (Delivered 30 September 2017) is “based on documented descriptions of its activities, technologies, group processes and roles that are shown to be sustainable in the ecosystem, as well as consortium reflections about the ecosystem's sustainability.”

This Deliverable 2.2 documents the structures that have been put in place to support the first ecosystem, INJECT Norway, describes the key participants in the ecosystem and their roles, and presents possible strategies to sustain the ecosystem. The goal is to map the key considerations / main lessons that need to be taken on board when rolling out to other INJECT ecosystems during and after the project period, so that these ecosystems can elicit additional feedback on the digital services and attract new participants to their respective ecosystems. It documents the work that has been conducted in Work Package 2.

This deliverable, documenting the stable ecosystem, and the consortium’s reflections on its sustainability is organised as follows: We first discuss the infrastructure of the INJECT tool as it has been put in the market in Norway, specifically addressing the technical, commercial and communication infrastructure (Section 2). In Section 3, we then discuss how within the Norwegian ecosystem the consortium has rolled out the product to new users within the consortium and document the pre-launch (to be followed by the actual launch in early 2018) of INJECT in Norway, indicating next steps as documented in the calendar of events of this first eco-system. Section 4 documents the way in which the ecosystem has been managed, while section 5 discusses our reflections on the process of and considerations for sustaining the ecosystem, concluding with lessons learnt for rolling out the product in other markets.

1.1 Objective and tasks of Work package 2

The objective of Work Package 2 is the launch and growth of the first INJECT ecosystem in which to evaluate the INJECT inspiration-based search software services. Work package 2 is constituted of three tasks, and this deliverable documents the stable version of the first INJECT ecosystem that has resulted from these tasks:

- Task 2.1: Design and prototype the first INJECT ecosystem (task leader: University of Bergen);
- Task 2.2: Launch the first INJECT ecosystem (task leader: University of Groningen);
- Task 2.3: Manage first INJECT ecosystem (task leader: Sciences Po).

1.2 The First INJECT ecosystem

As specified in Deliverables 3.2 and 2.1, the consortium has chosen to roll out the tool in Norway for setting up the first INJECT ecosystem.

Norway is a perfect market for the roll-out of the first INJECT ecosystem. Its 5.2 Million citizens can choose from a variety of around 220 different newspaper titles. Compared to almost all other nations, there is a high number of newspaper titles and according to UNESCO the highest rate of newspaper readership worldwide (between 550 and 600 copies are sold per 1,000 inhabitants). People from almost all segments of the population – geographically and socially – are regular newspaper readers. Both quality papers and popular newspapers are read in all segments of the society.

In Norway there are five big media organizations, Schibsted, Egmont Fonden, Amedia, Gyldendal, and Aller. Amedia alone owns 62 local newspapers across Norway, while Schibsted owns national newspapers and local newspapers. For smaller local newspapers, it is important to focus on local journalism to provide content that their readers want. Some papers in this group have lost readers, but in general group of papers has maintained readership levels. Time is a key factor for journalists working in a local newspaper, as news stories often require interviews with people that require the journalist to travel back and forth on a regular basis. INJECT can support the journalist in finding creative angles on a recurring event, or with an interview.

In addition, adoption of innovation seems to go faster in the Nordic countries when considering the Hofstede dimensions¹.

Finally, the basic elements needed to set up the first ecosystem were present between the different Norwegian consortium members. For each local ecosystem, there needs to be at least one commercial partner to offer the INJECT product, services and support in the local market (Deliverable 3.2). The Norwegian consortium partners included a commercial partner, in addition to potential users and clients at the local newspapers, and a University to monitor and evaluate the first ecosystem.

Partners from the local newspapers Sunnhordland, Hordaland and Hallingdolen have implemented the INJECT tool amongst a number of their journalists and have provided invaluable input for the further development of the tool. The commercial partner M'Labs has coordinated the ecosystem and developed commercial strategies, while University of Bergen has implemented and monitored the use of INJECT in the newspapers.

City, University of London and ICCS have developed and supported the technological tool. University of Groningen has further researched the process of implementation and here documents this process and shares relevant reflections by the different partners on this ecosystem which hold implications for rolling out the product in the context of other ecosystems.

In November 2017, INJECT Norway has pre-launched the tool, with the full launch planned for February 2018. This pre-launch has aimed to open up the solution to a limited number of new users, innovation partners and potential clients, in order to continue testing and improving the solution. It allows the consortium to test assumptions around the business model and user value before officially launching INJECT Norway in 2018. To create a

¹ Van Everdingen, Y. M., & Waarts, E. (2003). The effect of national culture on the adoption of innovations. *Marketing Letters*, 14(3), 217-232.

sustainable ecosystem, the current key concern is establishing the willingness and capability for key partners to fulfill core roles in the ecosystem, establishing the interest of users in INJECT, and evaluate media organisation's willingness to pay for the tool and / or the availability of other means of funding that allow the deployment and development of INJECT services.

The key partners in the current business infrastructure of INJECT Norway - City, University of London, University of Bergen and M'Labs - will need sufficient resources to continue to fulfill their roles after the project ends on 1 July 2018, which is part of our reflections in this document.

1.3 The INJECT toolkit

INJECT is a creative discovery tool that helps journalists find new angles for stories more quickly and more easily. The technology description in Deliverable 2.1 is still valid, and additional developments were aimed at meeting requirements from the journalists in the first ecosystem, so that as many journalists as possible can easily integrate the use of INJECT into their existing work practices.

This means INJECT has been made available as a Google Docs add-on, a TinyMCE plugin for use in WordPress, a responsive web application, and integrated into Adobe InCopy to allow for easy access to the tool, both on desktop and mobile devices.

The core features that allow journalists to explore news content in creative ways include different search strategies, fact cards, creative sparks, entity extraction, social media integration, and word clouds.

Creative Discovery

The search strategies have been reviewed and enriched following careful evaluation of the gathered data and suggestions for new creative search strategies, specifically a Twitter search strategy. INJECT contains the following search strategies:

- 'Backing and Evidence': This allows users to search for articles with quantitative evidence (e.g. numbers and measures);
- 'Individuals': provides users with the possibility to look for different people associated with their search topic;
- 'Causal': This function explores longer, explainer-style news articles that describe background, causes and impact.
- 'Quirky': This provides the user with cartoons related to the topic searched for;
- 'Twitter': This provides trending topics on Twitter related to locations that the user can select.

Next to that, there are two search strategies in development: 'Ramifications' and 'Data Visualisation'.

Every result can be explored further through additional features, accessible via a menu in the right-hand top corner on the news card:

- Open article : The user can read the original article in a new tab. The user can also open the article by clicking on the story.
- Copy reference : The user can copy the reference of the source to their clipboard in one click to save it and build on it later.
- Show creative sparks : This presents the user with an overview of all the creative sparks connected to the concepts extracted from the article by the algorithm .
- Refresh creative sparks: The user can request more creative sparks for a story and get ten more concepts with each new click.
- Show Word Cloud : This presents the user with a simple graphical representation of word frequency in a story
- Search in Google : This feature allows the user to continue their research in Google, once they have found an interesting story idea.

For ‘Individuals’ cards, it is also possible to explore their tweets about the search topic and other popular tweets.

News sources

INJECT searches through almost 3 Million articles and 40 000 digital cartoons in 300 news sources. These news sources can be explored by all users working with INJECT and are designated as ‘public’ sources in the tool. The crawler has been extended with ability to index and search YouTube video channels and videos are in the process of being added.

At the request of the Norwegian partner newspapers, WP1 plugged in and indexed an additional set of sources: the Norwegian news and media archives already used by many Norwegian journalists. These news sources can be explored by users who have access to these sources and are designated as ‘private’ sources in the tool.

Multi-language support

There are two language-related provisions that INJECT makes to support INJECT journalists that are not native English speakers. First, the front-end of the INJECT tool is provided in the language of the local ecosystem. Second, crawling, translation and indexing of non-English content such as non-English news sources or the archives of the three Norwegian newspapers is supported.

The INJECT search strategies work in four languages, INJECT searches news sources in five languages, and the User Interface is available in six languages (Table 1).

	ENG	NO	NL	DE	FR	IT	GR
Search strategy: Backing and Evidence	✓	✓	✓	✓			

Search strategy: Individuals	✓	✓	✓	✓			
Search strategy: Causal	✓	✓	✓	✓			
Search strategy: Quirky	✓						
Search strategy: Twitter	✓	✓	✓	✓			
News sources	✓	✓	✓	✓	✓		
User Interface	✓	✓	✓	✓		✓	✓

Table 1: Search strategies, news sources and User Interface available in different languages

Support / Bug-fixing

To serve the INJECT journalists, bugs and problems found by users can be reported immediately within the INJECT tool.

2 Basic infrastructure

To roll out the tool to more participants from the consortium, and engage new participants by delivering immediate benefits, a number of practical details have been dealt with in WP2 and the necessary infrastructure has been built up and made more stable, clearly identifying roles of different partners and mapping tasks and infrastructural issues. We distinguish here between the technical infrastructure, commercial infrastructure and communication infrastructure.

2.1 Technical infrastructure

Deliverables 1.1, 1.2 and 2.1 document the technicalities and developments of the tool. Here we consider a number of technical developments that have allowed the tool to meet core requirements, and in that way help us move towards a sustainable ecosystem of INJECT Norway.

Functional tool available in Norwegian

One of the main requirements in this work package, going towards a stable version of the ecosystem, has been to come to a functional version of the INJECT tool. The development team released and deployed a functional version of INJECT on 31 October 2017. This included four versions: integration in Google Docs and Wordpress, a TinyMCE plugin, and a standalone web application. This release (31 October 2017) included social media integration for validation by the journalists, showing their own archives in a dialogue box within the tool and a feature for continued search in Google, among other things.

The development team has kept responding to and integrating user feedback from the journalists at Hordaland, Sunnhordland, and Hallingdolen that had been working with INJECT since July/August 2017, which has led to a version that is deemed to be a stable

version of the tool. One of the main considerations that came from users in the first ecosystem was the importance of language. As such, the consortium members have delivered translations for the search strategies 'Causal' and 'Backing and Evidence' in different languages. For the Norwegian ecosystem we consider this to be a crucial step towards the sustainability of the ecosystem. Out of the six search strategies that are developed for journalists through INJECT, four are now available in Norwegian, next to the five search strategies in English version that is the prototype.

Speed

Another core requirement for the INJECT tool as identified by early and prospective users is the speed of the tool; time an essential factor for journalists. To fulfill this requirement, the technical partners have made necessary steps to increase the speed of use, amongst which hosting the tool at a different server, which, though more expensive, allows us to meet this core requirement.

Archives

Being able to search their own archives in addition to public news sources is paramount to the local journalists at the Norwegian partner newspapers. The journalists say their feeling about the tool changed significantly once it had been integrated into their archives.

As documented in Deliverable 2.1, the archives of Sunnhordland, Hordaland and Hallingdolen newspapers are "plugged-in" and indexed by INJECT.

Adobe InCopy

On the basis of reflections of users of INJECT Norway, the technical partners in the consortium explored the feasibility of integrating the tool into the user's text editor Adobe InCopy.

Speaking to the continuous weighing of costs of technological developments on the one hand and user feedback and requested features, the October 2017 release of the INJECT tool did not yet include integration into Adobe InCopy: the technical effort required to integrate and maintain the integration was deemed to outweigh the perceived benefits for the users and the project which were seen as limited by the development team. The stand alone INJECT version was deemed to provide users access to the full INJECT functionalities.

However, user feedback continued to stress the importance of easy access to the tool, such as this journalist explains:

"I must admit that in my everyday life, as a journalist, and because it's not integrated well enough in my writing system, I sometimes forget it [INJECT]. And maybe too much forget it." ... "When you have too many systems to work with and you have a really stressful day, you just don't have time. Or you just don't take your time to do it."

In the end, InCopy integration became considered to be an important requirement for the further rolling-out, user penetration and user satisfaction of the tool. The technical partners

delivered the InCopy integration on 1 December 2017 (Figure 1).

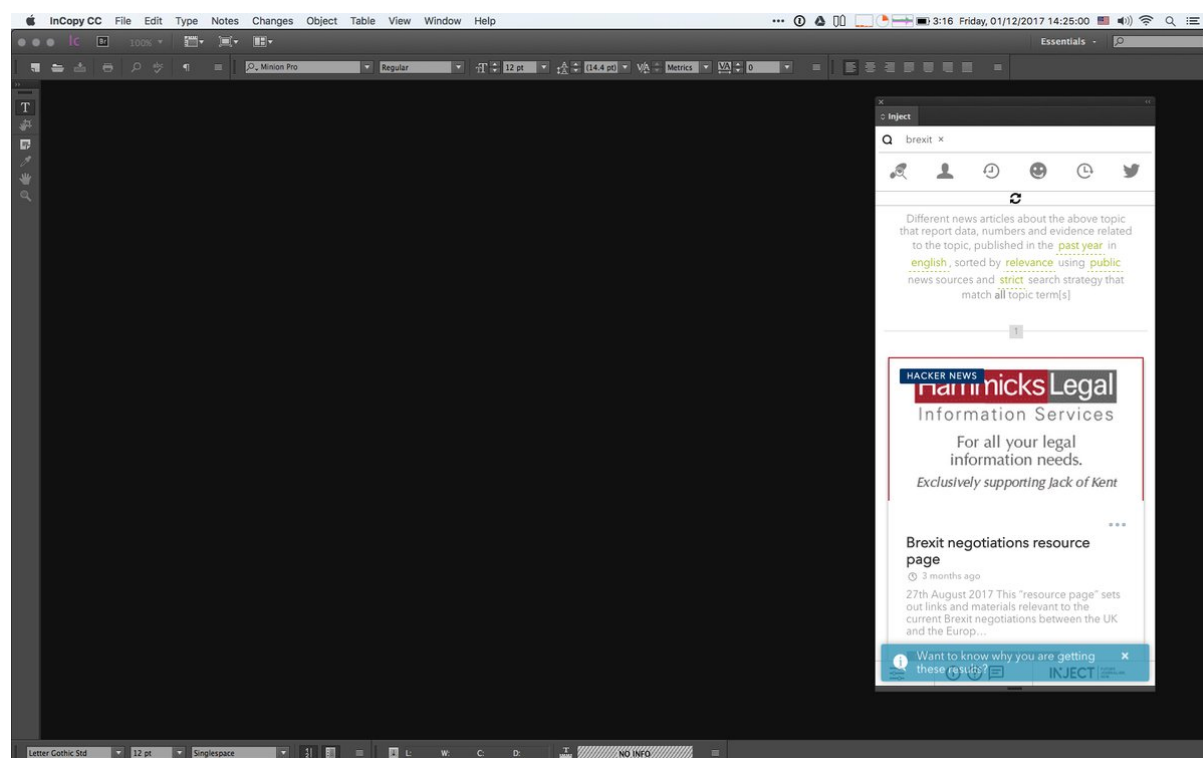


Figure 1: Adobe InCopy integration of INJECT

Login persistence

Login persistence is a necessary requirement to put in place the pricing model envisaged in the Norwegian ecosystem (Section 2.2). Individual log-in needs to be available before a fee per journalist can be asked.

An authentication system will make it possible for individual journalists to try INJECT by signing up with their email addresses. Future users and clients will get access to INJECT during a 2-month trial period. The idea behind individual user authentication is that individual agents of change in news organisations outside the consortium can sign up, start using INJECT and become advocates for INJECT within their news organisations. Hopefully encouraging their management to purchase the integrated version of the tool.

WP1 is working on login persistence and expects to deliver it early 2018.

Open architecture

To allow potential innovation partners to expand the INJECT features and services, the technical architecture needs to be open enough to integrate external technology. INJECT has a set of Application Programming Interfaces (APIs) that make it possible for external software to be connected to the application. This is expected to support the uptake of INJECT, for example by integrating it into additional CMS systems or by adding features that are valuable for the local ecosystem. In the Norwegian ecosystem, Volda University College is working on a data visualisation tool for local journalism called INJECT Infographics that might be integrated into INJECT, and exploratory conversations with technology company

Wolftech surfaced the possibility to expand their CMS system by integrating INJECT into it.

2.2 Commercial infrastructure

One of the main concerns of WP2, and which will be further explored as part of WP4, is the commercial infrastructure around the INJECT product. For INJECT Norway, this has been primarily in the remit of M'Labs, who acts as ecosystem coordinator. There are three main elements that are part of the development of the commercial infrastructure: the legal entity that will sell the product; the support network that supports those who buy the product; pricing issues. We discuss the latest considerations on these in turn, and in section 5 we look ahead, exploring what further issues need to be taken into account for this.

Legal entity

The local commercial partner, M'Labs in the Norwegian ecosystem, currently functions as the primary point of contact for potential new clients and users. M'Labs will set up contracts with local clients interested in using INJECT in their organisation. No complex technical skills are needed to set this up.

The consortium will further explore the possibility and legal framework that sells the product that INJECT offers (See WP4). This organisation could take over activities currently executed by City, University of London and ICCS after the project period (July 2018). For the Norwegian ecosystem, M'Labs will still function as the local commercial partner liaising with the clients.

INJECT Norway support network

For the Norwegian ecosystem, the online user community is central, as this is the place for information, community building, raising awareness and facilitating engagement with the brand and the tool. To already have an initial location in place to build this from, an INJECT Norway landing page has been created before the pre-launch. This will serve as the basis on top of which a user community will be built for the actual launch.

Ecosystem coordinator M'Labs created the website "INJECT Noreg" (<http://inject.no/>; figure 2), that serves as the online entry point for the first ecosystem. M'Labs published this website on 14 November 2017, two weeks before the pre-launch event. To ensure easy access and solid branding, similar domain names injectnorge.no and injectnorge.no are redirecting users to the main page <http://inject.no/>.

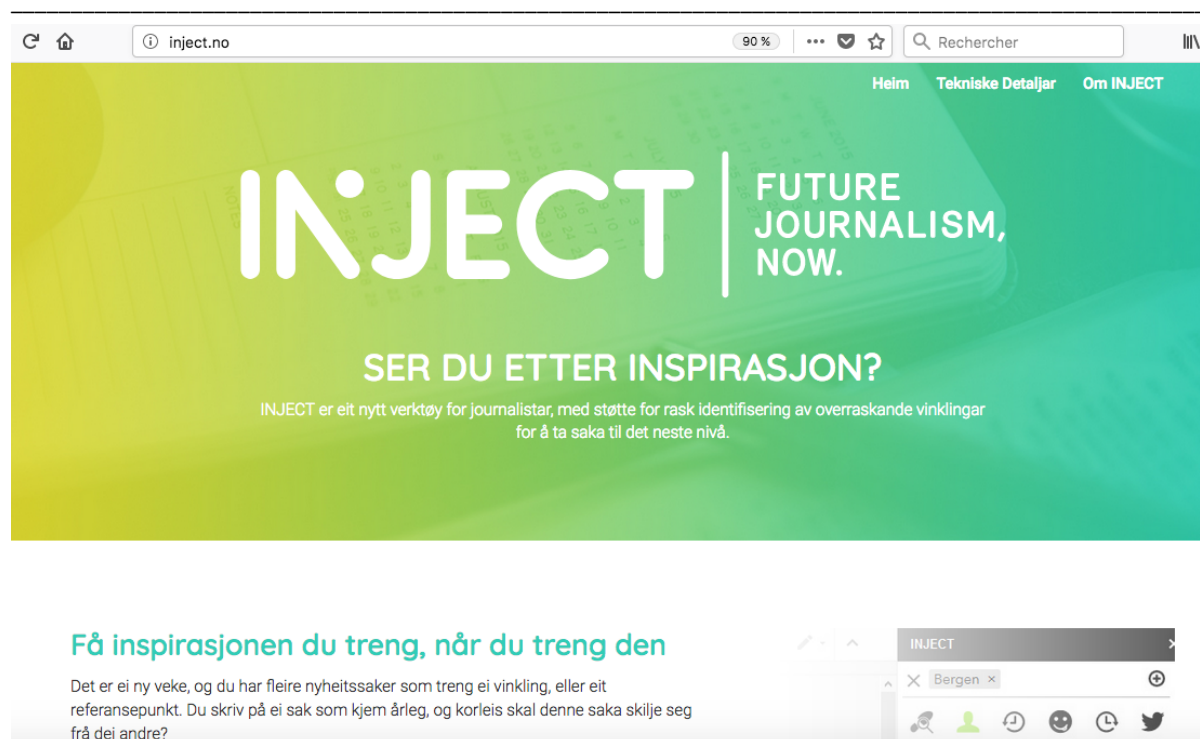


Figure 2: Screenshot inject.no homepage

This website contains a pitch of INJECT, technical details and contact details of the business manager in the first ecosystem, all in Norwegian. The information on the website has been developed in close collaboration with WP3, in order to create an adapted and effective message for the target audience of INJECT Norway in continuity with the consortium's message (see Deliverable 3.3 for details on communication and dissemination in the first ecosystem).

For potential clients M'Labs has a direct contact available, Benjamin Andreassen, who acts as the business manager for INJECT Norway. The INJECT consortium Facebook page (<https://www.facebook.com/injectproject/>) is a second point of contact for interested users and clients. Benjamin Andreassen (M'Labs) and Aleksander Tonheim (University of Bergen) have a moderator function on this Facebook page, allowing them to respond to requests and share information about the first ecosystem. Below we also address communication more in detail.

As such, there is already the basic infrastructure available for INJECT Norway to be reached by prospective users and clients. To expand and sustain the ecosystem, and contribute to brand awareness and professionalisation of the commercial relations, this will be further developed into a full user community. This is currently being developed by M'Labs. The user community will be a subdomain on the INJECT website (like, [community.injectproject](#) or similar), that would contain an extensive knowledge-base and a community forum where users can learn from one another. It will serve as a platform where users can exchange ideas, ask each other questions and request support.

As mentioned in Deliverable 3.3, in the case of INJECT Norway a very particular approach was taken, which focused on quality of the community over quantity. Given the exploratory nature of this ecosystem, and the experimental phase of the technology, to come to a stable

use of the tool, the focus has been on testing and creating awareness in WP2 (with support from WP3). This stage has been necessary to gain sufficient information and insight into the marketability and further technical development of the INJECT tool.

Our Social Media strategy, also covered in Deliverable 3.3, as well as the pre-launch event on Nov. 29/11 are testimonials of this.

This strategy, focusing on use and not yet sales, is common in this phase of the technology and reflects our dependence on first movers to be advocates for INJECT -- so while INJECT is a tool that will be a tool for which an international market is sought, for the Norwegian case, commitment has depended on a strong community building that is locally based.

To ensure the sustainability and sales of the tool, we first need to establish a firm user commitment from the beta-testers, so that they can spread the word about INJECT from their experiences. Given the nature of the tool -- it needs to become part of the everyday working routines of the journalists -- it takes a certain dedication: to implement new elements into an existing workflow prospective users need to be convinced of its value, and user experiences from colleagues and competitors is instrumental in showing that the tool is worth their while. The stories of the current users of the tool, distributed both by word-of-mouth and a strong marketing campaign (WP3) will support outreach to potential clients .

Pricing

At this stage the ecosystem is operating with the tool being used by non-paying clients, and an important set of tasks in the first ecosystem has been to develop a realistic pricing model. At this stage, this is the working model, but this is subject to change with the pre-launch just held and the launch yet to come.

Deliverable 2.1 proposed a three-part pricing model, consisting of three packages that clients could subscribe to:

- *Creative newsroom (initial set up € 2000, then € 50 per user/year)*
- *Connected newsroom (initial set up € 2000, then € 150 per user/year)*
- *Prime newsroom (initial set up >€ 2000, then € 250 per user/year)*

To evaluate the business model, a simplified version of this pricing structure was presented to potential clients at the pre-launch event:

Subscription to INJECT

- Access to all INJECT channels and news information sources, training, helpdesk and development communities for one-off fee (€2000/20,000 NOK) and annual user cost (€150/1,500 NOK per user per annum)
- Subsidized access to creativity training and INJECT+
- Free 60-day trial period to discover INJECT benefits

Bespoke contract for INJECT+

- Subscription to INJECT (as described above)

In addition to:

- Integration of own news archives into INJECT
- Bespoke features linked to own news archives
- Specialist integration with own CMS(s)
- Straightforward integrations (€2000/20,000 NOK)
- Limited offer of free integrations in early 2018

The different versions of the contracts and the accompanying prices have been established on the basis of thorough market research, and in particular on the basis of a range of interviews with senior staff at Sunnhordland, Hallingdolen and Hordaland newspapers (Deliverable 2.1).

Contracts and payment

As the first ecosystem is currently operating with the tool being used by non-paying clients, no contracts have yet been set up nor have any payments taken place. However, in anticipation of the launch scheduled for February 2018, M'Labs has thought about how to organise contracts and payment.

As M'Labs expects the number of initial clients to be limited and probably not more than ten, contracts between local clients and M'Labs will be set up individually and invoices sent to the clients manually.

At this stage, the technology will not be 'pushed' to the Norwegian market in a systematic way yet. The tool and the client support system are currently still in development, and a certain level of bottom-up interest, curiosity and engagement is needed for the tool to be successfully implemented. When this is more solidly in place, a broader campaign to attract new clients can start and the process of buying INJECT Norway tool can be done through the INJECT Norway website, and the process can then be automated. There are various payment portals available for this, but as those payment portals take a commission, it is considered an unnecessary cost-post at this stage.

2.3 Communication infrastructure

In addition to the link between the INJECT Norway (<http://inject.no/>) and the INJECT project website (<https://injectproject.eu/>), the consortium has a number of social media channels and newsletter templates available to INJECT Norway. As outlined in the above, Benjamin Andreassen (M'Labs) and Aleksander Tonheim (University of Bergen) have been added to the INJECT Facebook page as moderators.

In collaboration with WP3, updates about the first ecosystem have been communicated on the INJECT project website, the consortium's social media channels and in the consortium's monthly newsletters, which has also included news about INJECT Norway.

Visitors of <http://inject.no/> can sign up for the consortium's newsletter to stay updated on INJECT developments, including 'news from Norway'. As the number of newsletter subscribers grows, specialised newsletters about the local ecosystems may be envisaged.

Local channels

Communication about the Norwegian ecosystem takes place primarily on Facebook and <http://inject.no/>. In addition, the University of Bergen has a communications office that publishes about research results (Figure 3): http://www.uib.no/aktuelt/113025/ny-teknologi-hjelper-journalistar-finne-nye-vinklinger?utm_content=buffer35906&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer



The image shows a screenshot of a news article on the University of Bergen website. The header is red with the university logo and navigation links. The main heading is 'AKTUELT'. The article title is 'Ny teknologi hjelper journalistar finne nye vinklinger'. The sub-headline reads: 'UiB-forskarar har i eit halvt år samarbeida med norske lokalaviser om å videreutvikle søke- og skriveverktøyet INJECT.' Below the text is a grid of four images: a person in a lab coat using a tool on a specimen, a modern wooden house, two women in traditional Norwegian folk costumes standing in front of a white house, and a street view of a building with a 'PUB' sign. A caption below the images lists the names of the journalists who created the images. At the bottom, there is a byline for Britt Kristin Ese, a publication date of 05.12.2017, and a red 'INJECT' logo.

UNIVERSITETET I BERGEN

UTDANNING FORSKNING BIBLIOTEK STUDENT ANSATT OM

English

AKTUELT

UiB > Aktuelt > Nyhetsarkiv > Ny teknologi hjelper journalistar finne nye vinklinger

NYHETER

Ny teknologi hjelper journalistar finne nye vinklinger

UiB-forskarar har i eit halvt år samarbeida med norske lokalaviser om å videreutvikle søke- og skriveverktøyet INJECT.

INJECT: Bilda er frå nokre av sakene journalistane har laga ved hjelp frå det nye skriveverktøyet. Opphavsett: ÷v øvst: Hallingsdalen, Ingvild Sigjen Bergen/Hordaland, Vidar Herre/Hordaland, Heneik Mundal Andreassen/Sunnhordland

Av BRITT KRISTIN ESE | Publisert: 05.12.2017 (Sist oppdatert: 13.12.2017)

- Som oftast kan eg vere litt einspora, eg veit kva eg vil ha. Å få vridd hovudet til å prøve å

INJECT

Figure 3: Article about INJECT on the website of University of Bergen, 5 December 2017

However, the most important means of communication and dissemination will be the personal and professional networks of the Norwegian partners.

The dissemination strategy proposed in Deliverable 2.1 centers on the participation in relevant events in the Nordic countries and organising workshops for potential agents of change, where they can get a first hands-on experience with INJECT.

Events that are hosted by an actor outside the consortium are expected to be communicated by these external parties as well. An example of this is the report written by Morten Dahle at NCE Media about the pre-launch event on 29 November 2017 (Figure 4):

<https://mediacitybergen.no/students/inject-a-digital-inspiration-tool-for-journalists/>

Until the actual launch, when the actual tool and technical support are available for clients to be bought, we are balancing between creating awareness and setting expectations too high: as WP2 has worked with a tool and infrastructure in development, it has been important to not yet sell INJECT as a finished product --this could set the users up for disappointment, while the most important task currently at hand is building up and maintaining excitement and curiosity around the tool, so that when the tool is fully available for commercial deployment, the actual interest is there.

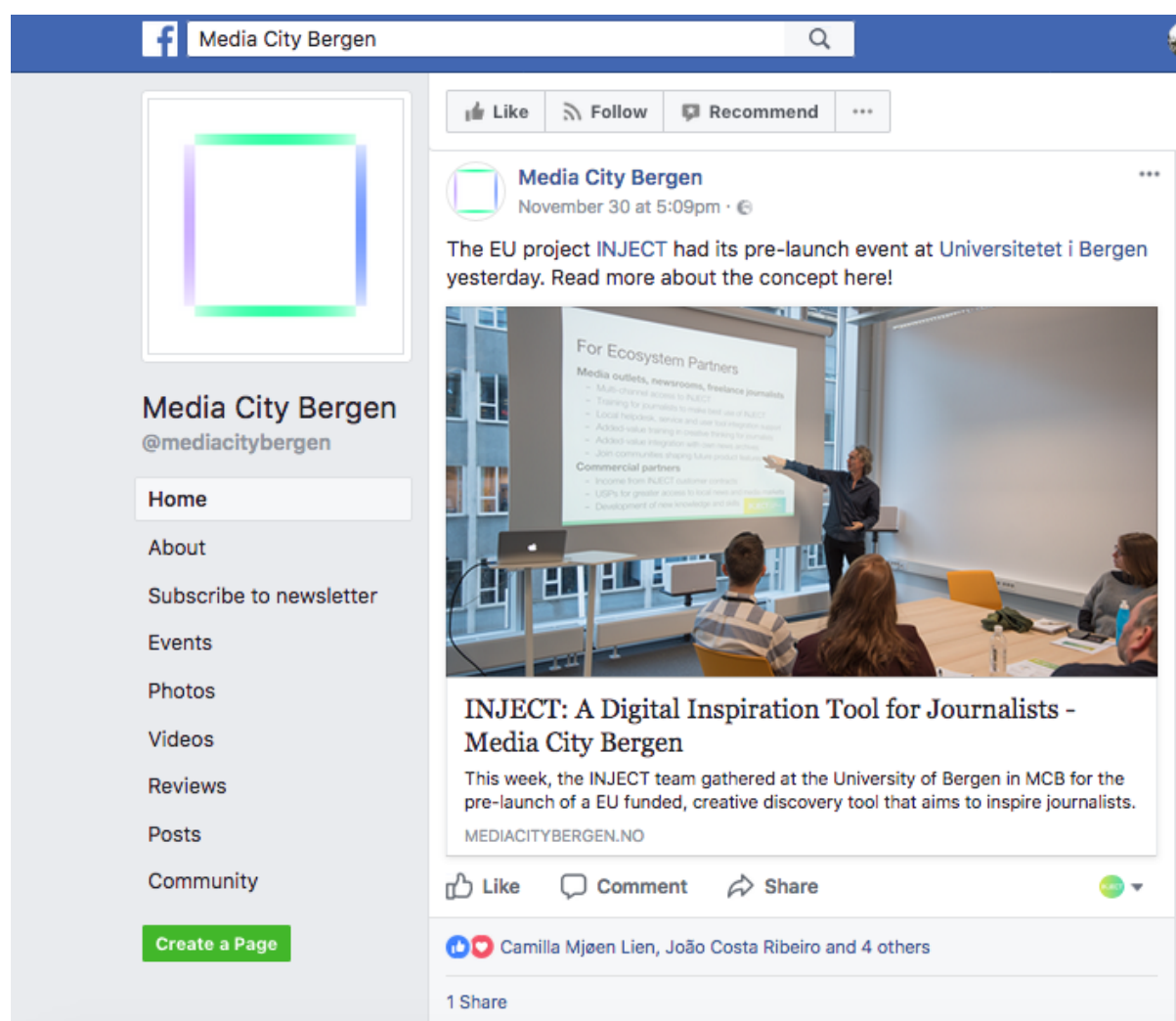


Figure 4: Report on the Norwegian pre-launch by the NCE Media and published on their Facebook page

3 Growing the INJECT Norway ecosystem

WP2 has specified as one its tasks to grow the number of users of INJECT within the consortium. This has happened with users in the Netherlands through VersPers and in France, through the network of SciencePo. These users have worked with and tested the tool, which has all been documented and the results of which have been shared with the leader of WP4, which focuses on rolling out the tool to other ecosystems.

At the same time, WP2 has already gone beyond its remit and identified new users outside of the consortium. This has been considered a major step in the sustainability of the first ecosystem. Growing the INJECT Norway ecosystem happened in two main ways:

- Train more users at partner newspapers Sunnhordland, Hallingdolen and Hordaland to establish INJECT's potential value for users;
- Present INJECT to potential users and clients outside the INJECT consortium.

3.1 More users at partner newspapers

At the start of WP2, in September 2017, three journalists worked with INJECT. To engage new users, a call for new users was put forward at editorial meetings of these Hallingdolen and Hordaland newspapers and at Sunnhordland the INJECT tool was installed on a number of computers in the newsroom and the link to the tool shared. This resulted in five new users of INJECT in addition to the three agents of change: two journalists at Hallingdolen, two new journalists at Hordaland, and one journalist at Sunnhordland. Aleksander Tonheim, University of Bergen, who has functioned as a tutor in the first ecosystem ("a person from a commercial partner who will be the main contact to a client using/going to use INJECT"; D2.1), trained these new journalists on how to use the tool (between 1 November 2017 and 31 December 2017). This training is important not only to engage journalists to use the tool, but has also provided the development team with the necessary feedback on the functionality and actual use of the tool.

3.2 Growing the first ecosystem beyond the consortium

As indicated in the above, at this stage the ecosystem has focused on getting the tool used and creating awareness around it with some first outward focused marketing. The aim has not been, given the phase that the technical tool and its infrastructure is at, to sell the actual product yet. Rather, the ecosystem aimed to explore best possible ways to get to a business model (also addressed below), for smooth transitioning into the next phase, where the resources need to come from outside of the consortium and when paying clients need to be attracted to sustain and further develop the ecosystem.

Considered as a major step within this, the launch of the product in the first ecosystem has been postponed, so as to optimally use this moment for marketing purposes and to keep external expectations in line with the phase of the product. Instead, the ecosystem partners have opted to hold a pre-launch in November, with the full launch (that opens it up for paying clients more broadly) scheduled for February 2018.

In November, consortium members participated in a number of events in Bergen and elsewhere in Norway aimed at attracting potential new users and clients outside the consortium. It also allowed to further test assumptions in the first ecosystem and receive feedback from actors outside the consortium.

- 3 November: Hackathon - Workshop INJECT

As part of the University of Bergen's Hackathon, an INJECT workshop was offered to media and information science students at the University of Bergen (Figure 5). They were asked to bring their own laptops to participate in this workshop. They downloaded INJECT on their computers, which allows them to use INJECT after the workshop if they are interested in this. In addition, their feedback was used to further improve the Norwegian version of the INJECT tool.



Figure 5: Lars Nyre (UiB) introduces INJECT to Information Science Students

- 15 November: NxtMedia Conference in Trondheim

WAN-IFRA was invited to present INJECT Norway at the NxtMedia conference in Trondheim, in a session dedicated to local news (Figure 6). This increased the visibility of INJECT in another geographical area of Norway than the Bergen region. 60 of the 300 conference participants attended the INJECT presentation.



Figure 6: Andrea Wagemans (WAN-IFRA) presents INJECT in a session on Local News

- 17 November: Western Norway editor association event

Editor-in-chief Magne Kydland (Sunnhordland) invited the University of Bergen to present INJECT to editors from local newspapers at their annual gathering. This event was seen as the most important event for the pre-launch strategy as it gathered the target group for INJECT Norway, local newspapers.

The University of Bergen gave a demonstration of INJECT and showed inject.no to attract potential clients.

The result of these activities is committed interest of a number of news organisations, including other local newspapers in the the Bergen area, and regional and national newspapers and an online magazine In the coming phase, consortium partners will need to capitalise on this interest by having the fully functional tool ready not just for use but also for sales providing the necessary infrastructure.

- **Fanaposten** (<http://www.fanaposten.no/>) - a small local newspaper in the Bergen area. Fanaposten newspaper showed strong interest in working with INJECT at the annual gathering of local newspaper editors. University of Bergen is in contact with them about starting to use the tool.
- **Nationen** (<http://www.nationen.no/>) - a national newspaper in Norway covering local topics such as agriculture, rural districts and food. It is based in Oslo with offices in Trondheim and Fagernes. Two journalists from Nationen newspaper gave their contact details after the presentation at the NxtMedia Conference in Trondheim and WAN-IFRA contacted them afterwards for a Demo and meeting via Skype. They have access to INJECT and are encouraged to use it in their work and share feedback.

Pre-launch

Ecosystem coordinator M'Labs was responsible for organising the pre-launch event where INJECT was presented to potential clients in the first ecosystem. M'Labs was supported by the University of Bergen, Sunnhordland, Hordaland, Hallingdolen and City, University of London. On the day they shared their experiences with INJECT, gave a demonstration of the Norwegian tool using examples of stories that were written with INJECT, and answered

questions (Figure 7).

The pre-launch event was an invitation-only event to generate a sense of exclusivity. The Norwegian partners together invited 70 people from their personal networks and contacts acquired through events leading up to the pre-launch.

The pre-launch took place in the new facilities of Media City Bergen, where the University of Bergen has offices, as well as media organisations NRK, TV2, Bergens Tidende, and technology companies Vizrt and Wolftech. Bergens Tidende, Virzt and Wolftech attended the pre-launch event.

Many of the local newspapers in Norway, the target group of the first INJECT ecosystem, are owned by umbrella-organisations, such as *Agder media* and *Schibsted*. These types of organisations were invited to the pre-launch event as well, with the idea to introduce INJECT to newsrooms “top-down”.

Of those invited, 25 people attended the pre-launch event.



Figure 7: CEO Trond Syversen (Hordaland newspaper) shares his impressions of INJECT with attendees of the pre-launch event

3.3 Calendar of Events

To continue to grow INJECT Norway and strengthen its chances for outliving the crucial period when internal funds expire, the following events have been planned.

- Early 2018: NODA - Nordic conference on data journalism, in Stockholm.

NODA is a conference on data journalism where journalists from different media houses in Norway, Sweden, Denmark, UK, USA and Germany send in their projects. The NODA Awards are awarded to three data journalism projects in the categories “Feature”, “Application” and “Investigative”. The goal is to present INJECT to future clients and journalists.

- 13 April: The annual conference of the Association for Norwegian local newspapers, in Bodø.

The association for Norwegian local newspapers (LLA) have over 100 members across Norway. LLA has a goal to strengthen local newspapers, facilitate them to serve as the fourth estate, and stimulate democracy, culture and businesses in their local community. Every year LLA hosts an annual conference for its members. The goal is to present INJECT to future clients and journalists.

- 2-4 May: Nordic media festival, in Bergen.

Nordic media festival is the largest media conference in the Nordic region. The festival has over 1800 delegates representing the full spectrum of the industry. There is a diverse representation of media heavyweights, creative visionaries and upcoming talents.

As to the official launch, M'Labs is currently looking for a large/medium sized event to pair with the official launch of the Norwegian ecosystem in late January / early February of 2018.

M'Labs also intends to prototype INJECT during the creativity and digitisation trainings they offer.

4 Managing the ecosystem

This section outlines the types of relations between the different stakeholders in the ecosystem. As soon as the network of stakeholders is perceived as having a structure and dynamics, it will become easier to attend to it, modify it, enhance it and manage it.² As such it is deemed an important step towards identifying the necessary next steps that will help sustain the current ecosystem.

We focus here on three core elements in the ecosystem: ecosystem management, users and the business model:

- Ecosystem management - who is managing the ecosystem and what is their role in the ecosystem?
- Users - who are the users and how do they interact with the ecosystem?
- Value of INJECT - what is the perceived value of INJECT for different stakeholders in the ecosystem?

As illustrated in Figure 8, the ecosystem needs three types of actors to function:

- Support structure - which was outlined in Section 2: Basic Infrastructure and includes the software, communication channels and support network that were put in place in the Norwegian ecosystem.
- Ecosystem management - which will be discussed in Section 4.1 below. Two important aspects of managing the ecosystem are to identify possible points of contact for new users and develop ways to encourage users to take an active role in the ecosystem.
- Users - which will be discussed in Section 4.2 below. In terms of users, we distinguish between agents of change and 'regular' users, depending on their involvement in further growing the first ecosystem.

Figure 8 also presents possible partnerships to be explored in the future. These roles and actors are depicted separately from the current Norwegian ecosystem. Connections have been made between the first ecosystem and some potential future partners (see Section 5.1.3: 'Growing the ecosystem beyond the consortium') through communication and dissemination activities, as well as the different contact points, including the INJECT Norway web domains, the INJECT Facebook page and the Norwegian partners own' networks.

² Manring, S. (2007) "Creating and Managing Interorganizational Learning Networks To Achieve Sustainable Ecosystem Management" <https://pdfs.semanticscholar.org/bde0/d71ce95e834c3cfa5800d259540b353b06d5.pdf>

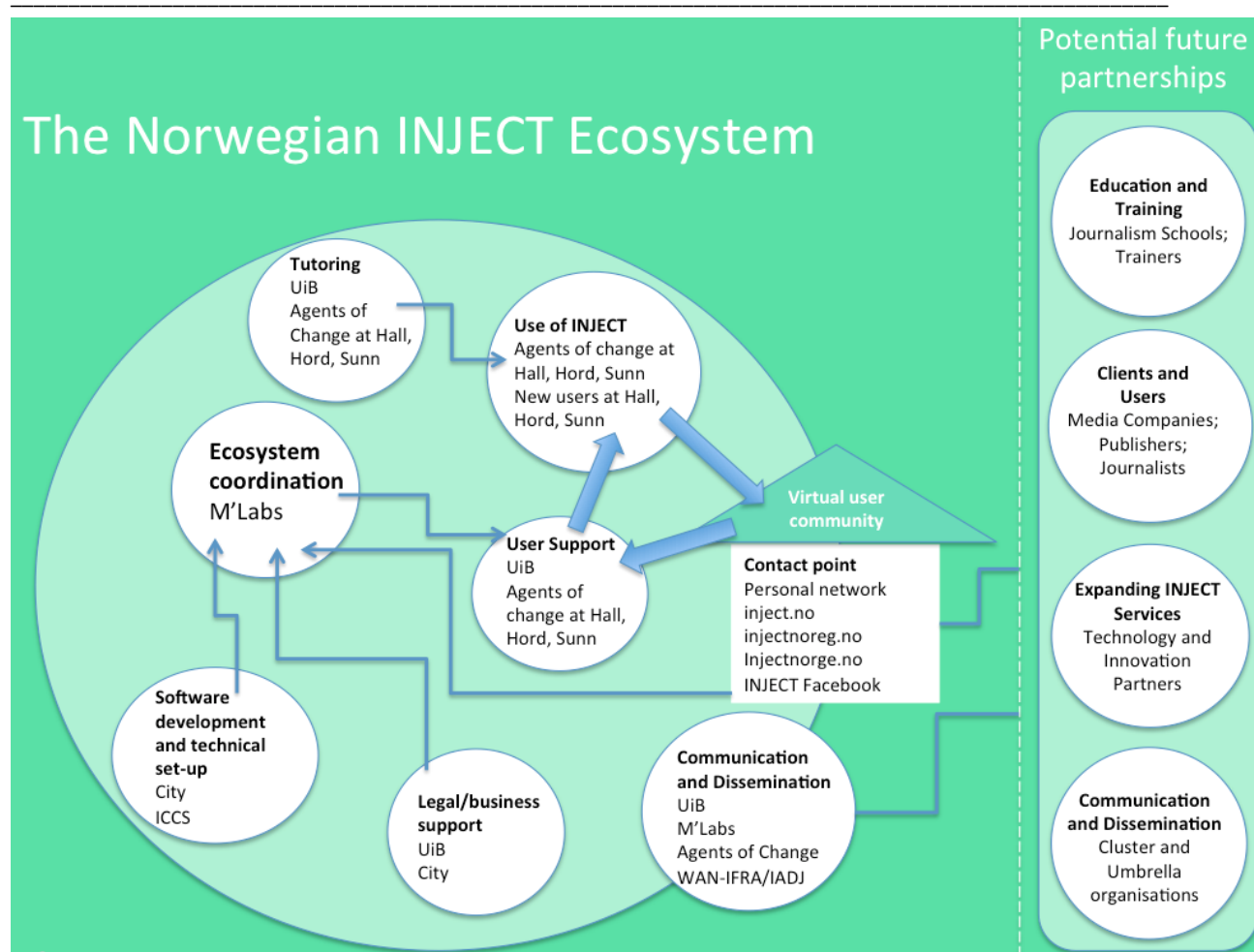


Figure 8: Roles and actors in the first INJECT ecosystem, and potential future partnerships

4.1 Ecosystem management

As ecosystem coordinator, M'Labs' takes this role in the first ecosystem, although the idea behind the ecosystem is that it manages itself up to a certain degree. During the project period, the University of Bergen will continue to support M'Labs in its role of ecosystem coordinator.

'Managing' is primarily understood as encouraging interaction with and participation in the ecosystem.

Ecosystem coordination

M'Labs is a commercial partner of the INJECT ecosystem and acts as the ecosystem coordinator.

Within M'Labs, Orjan Blytt Polden built the INJECT Norway platform and will maintain the online user community.

Benjamin Andreassen took over from Joao Ribeiro and now acts as the business manager. Potential new clients can contact him directly by e-mail or telephone to discuss in more detail what is possible in terms of integrating INJECT into the work environment of their newsrooms.

M'Labs fulfils the role of ecosystem coordinator, but will gradually also take over the role of tutor (see 'Tutoring (new) users' below) from the University of Bergen, in order to manage the resources that are available.

The role of the ecosystem coordinator is to connect the various stakeholders in the ecosystem and coordinate their activities, by:

- acting as the primary contact point for potential clients of INJECT in Norway;
- following up on potential clients and users that express an interest in INJECT in Norway;
- mediating between the international software providers and the local users;
- testing and refining the pricing structure and business model;
- maintaining inject.no; the official entry point to INJECT Norway for new users and potential clients;
- organising events like the pre-launch event.

Tutoring agents of change and users

The tutor is a key role in the ecosystem (as identified in Deliverable 2.1), as they guide the setup of INJECT, encourage new users to use the tool and follows up with them weekly so they remember to use the tool. University of Bergen is an evaluation partner of the INJECT ecosystem and has monitored the ecosystem, but has also centrally featured as a tutor in the ecosystem, training and engaging (new) users. Within the University of Bergen, Aleksander Nygard Tonheim has acted as a researcher and trainer/ instructor.

The role of the tutor is to encourage interested new users to start using INJECT regularly and become active participants in the ecosystem (see Figure 9), by:

- introducing agents of change to INJECT and its functionalities;
- encouraging agents of change to work with INJECT on their stories;
- nurturing the right mindset towards INJECT among agents of change;
- following up with the agents of change weekly, to encourage use but also reassure them about their use of INJECT;
- supporting agents of change introducing new journalists users to INJECT.

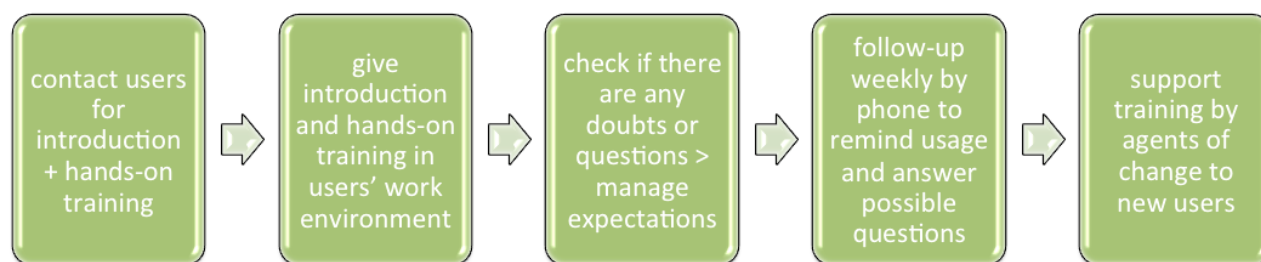


Figure 9: Step-by-step INJECT setup with agents of change, as carried out by the tutor

To support the agents of change training new users in their respective news organisations, the University of Bergen organised workshops and trainings in which they introduce new users to INJECT by letting them use it for one of their own articles, while providing guidance during the process. Their experiences show that this works well, because only then does it become clear what the tool does for that person. The tutor in Norway experimented with training new users via Skype, with an agent of change (see ‘Agents of Change’ below) on-site to support and give examples (Figure 10). These sessions took at least 40 minutes, allowing the tutor enough time to show the tool and different functionalities. The support of the agent of change to provide concrete examples was valuable, according to the tutor, and made it possible to effectively introduce INJECT to new users via Skype.

This is relevant, as the tutor had previously spent 5 hours training the agents of change in their own work environments. In the Norwegian context, this means he had to travel significant distances to perform these initial trainings. As trainings via Skype have proven to be effective, this opens up new and less demanding ways to set up INJECT with new users.



Figure 10: Training a new user at Hordaland newspaper via Skype.

The tutor has introduced INJECT to other journalists in each local newspaper with the goal to trigger the creation of a small “user community” where the agent of change can be the source of information on the toolkit. The new users haven’t used INJECT to publish news

articles yet, but they are experimenting with it. University of Bergen is currently following up with all journalists to help them when encountering problems with the tool, and to inform them about new functionalities in INJECT.

Legal and business support

Within the University of Bergen, Ola Roth Johnsen has acted as the Innovation Manager, researching legal and business questions that have arisen and aimed to increase knowledge about the Norwegian ecosystem and how to manage it effectively.

Marketing and communication

WAN-IFRA and Interlink Academy have shared results from and updates about the first ecosystem on social media, in the monthly newsletters and on the injectproject.eu.

NCE Media and University of Bergen have published about the INJECT pre-launch event on their websites and social media channels.

4.2 Users

Users are crucial to the ecosystem. For the ecosystem to exist and develop, users need to want to use INJECT, actually use INJECT and share their experiences. Use of INJECT confirms INJECT's value to the clients. Word-of-mouth was identified in Deliverable 2.1 as an important way to spread the word about INJECT and build a user community.

Agents of change

Key in this process are the *agents of change*; journalists that are the first-movers in their newsrooms and that support the adoption of INJECT in their newsrooms, by encouraging colleagues to use the tool as well (Deliverable 2.1): "a person/early adopter in the newsroom who finds the INJECT search engine genuinely useful and recommends it to fellow journalists inside and outside his own media enterprise."

Agents of change in the Norwegian ecosystem have been organically selected. In interviews with the University of Groningen as part of WP2, the agents of change at Hordaland, Hallingdalen and Sunnhordland say they seemed the most natural people in their respective newsrooms to try out INJECT, either because they are part of the online team or because they are doing a lot of different things in the newsroom.

Although those assigned the agents of change role did not always actively choose this role, they report in interviews with the University of Groningen to have felt curious about the tool or interested in participating in an international project with many partners.

The agents of change generally expressed enthusiasm about the INJECT tool - which was identified as a crucial element for adoption of INJECT in Deliverable 2.1 - despite their occasional frustrations with the limited functionality, bugs or speed of the tool while it was still being developed. The agents of change say they see the potential value of INJECT and are actively working on convincing colleagues of this potential as well.

The role of the agents of change is to grow the user community (Figure 11), by:

- sharing experiences with INJECT with other journalists in their organisations;
- introducing new users to INJECT and its functionalities;
- encouraging new users to work with INJECT on their own stories;
- nurturing the right mindset towards INJECT among new users;
- being available for the new users in case they have questions;
- exchanging experiences with and ideas about INJECT with other agents of change and new users.

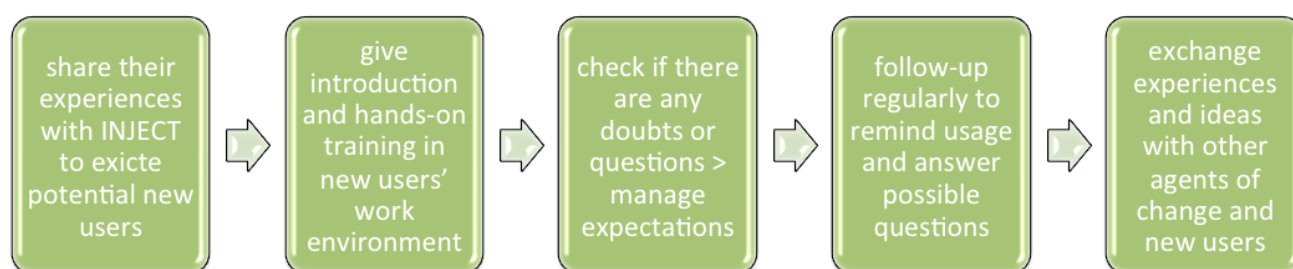


Figure 11: Step-by-step growing of the user community, as initiated by agents of change.

Talking about INJECT and encouraging colleagues to use it, is in the users' interest because they'll be able to share experiences with each other. The agents of change say they like that they are no longer the only ones in the newsroom using INJECT now that more journalists at Sunnhordland, Hordaland and Hallingdolen are using INJECT. Some of the journalists requesting a Demo so far propose that they ask a colleague to join the meeting, implying that they prefer to do it together rather than alone.

Once the virtual user community is up and running, users will be able to interact with users at other news organisations, ask each other questions, and share ideas and experiences with other journalists.

In order to fulfill their role, the agents of change need to be supported by their management, but preferably not have a management role themselves as the lack of time and the set of responsibilities limits the possibilities to work with the new tool. Journalists without a managerial role seem key to perform the role of agent of change in the newsroom, supported by a tutor, who encourages and reassures them.

Users

According to the agents of change, new users that are most likely to get on board are journalists who are curious and open-minded about new ways of doing journalism.

User experience seems more about a mindset towards INJECT than about actual functionalities. Although a functional tool is a basic requirement for a positive user experience, feedback from the Norwegian newspaper partners has indicated the need for managing expectations. This seems to hold more broadly, as testing in the UK, France and

the Netherlands have shown. The attitude/mindset of users towards INJECT is crucial to it being perceived as useful.

One way to manage expectations is through the workshops offered to new users. University of Bergen in its role of tutor has organised trainings with support from the agents of change to introduce new users to INJECT. The workshops allow to provide context to new users and explain what INJECT can do and what it cannot do.

The main difference between the agents of change in the consortium and the new journalist users at Hallingdolen, Hordaland and Sunnhordland, is that the agents of change have more patience with the tool and are given more time to use INJECT:

“I know how it works, so I’m just patient. But my colleagues, they don’t have the time to wait. They have the news.. you know, my bosses, they know that I work on this project, so if I use a little bit longer time to deliver it’s ok. But the other ones, they have to deliver news articles all the time and they don’t... if this doesn’t work, they don’t want to use it, they just keep on doing what they’re used to do.”

Opening up INJECT to more users, is expected to deliver additional feedback that will in turn be used to adapt the tool so that it increasingly meets the requirements of the journalists using it and make the tool work better.

Whether these strategies will be as effective as the highly personal approach to tutoring new users in the Norwegian ecosystem will become clear in the coming period . The experiences so far show the importance of the right mindset towards INJECT, reassurance of journalists using it and concrete examples that influence the users’ perception of the tool’s usefulness and usability.

4.3 Value of INJECT

After having have installed agents of change, tutored new users to test and gain experience with the INJECT Norway tool, one of the main concerns in moving forward with the first ecosystem is developing the business model that will allow us to sustain the costs in the long run. As such the business model is a crucial element in the sustainability of the ecosystem beyond the research phase. There are different considerations in coming to a sustainable business model, and particularly in a time where journalism is deemed in a crisis, this is by no means self-evident. Here we discuss the perceived value of INJECT, the estimated costs to maintain and develop the tool in this ecosystem and the pricing model. Though the consortium at large is also looking into other ways to fund the initial startup phase of the INJECT spin-off, INJECT Norway is mainly focusing on gaining paying clients.

There are different stakeholders of INJECT: at the level of the actual users (the journalists) and the paying clients. In the first ecosystem these are the newspaper owners, and/or senior editors with a say in expenditures. In other ecosystems, these may be the same people (in case of freelance journalists), or the hierarchical situation may not be as marked as in the case of these local newspapers (think for instance of small startups).

Given the specific nature of the first ecosystem the consortium has had to focus on two

different stakeholders and had to choose whether to go for a bottom-up strategy (focusing on the users for them to ask their seniors to buy INJECT) or a top-down strategy (focusing on those with financial authority). At this stage we have considered both equally important: we have focused on expanding our user numbers (also beyond those in the consortium and beyond the geographic boundaries of the first ecosystem) and investing time and energy in agents of change who can push the product and create awareness bottom-up. At the same time, effort is consciously directed at those who can decide to buy the tool, also given the nature of the consortium, where we have access to a number of key contacts to create this kind of interest.

The main selling point of INJECT is: Better stories and easier ways to write them. INJECT aims to help journalists quickly find unexpected angles for news stories and allows them to start building articles instantly, without the need to switch between screens. INJECT promises to deliver creativity support and better background, in the form of a tool that is easy to use and integrated in the journalists' existing work tools (Google Docs, Adobe InCopy, WordPress plugin, etc.).

So far, the agents of change have mainly used INJECT for larger feature stories that require time. For an article on Culture (Figure 12), a Sunnhordland journalist used the search dimension «individual» to find information about the artist in the story. INJECT helped the journalist with research to this news story, and the journalist spent approximately 15 minutes to find information. The journalist registered that the information INJECT provided had good relevance (on a semantic Likert scale from no relevance - very good relevance).



Figure 12: News story from Sunnhordland: www.sunnhordland.no/kultur/gler-seg-til-a-spela-pa-flygel-tangenten-sin-1.2177154

One of the main points of value of INJECT as a way to make better use of the news organisations' archives, which is data that only the news organisations have access to, is underlined by one of the agents of change:

“I think we could be better at using our own archives. We have an archive of over a hundred years, and that's not in Google. So, it's only for us. So that could be a very

useful tool, a tool that could integrate this better.”

At this developing stage, users who are using the tool and providing feedback can put their mark on the tool and its features. The fact that the tool is continuously being developed seems to have value for the agents of change, as they see how their feedback being integrated in the form of new features:

“I can see that it’s being developed all the time, there’s always something new and... today I saw when I was going to start testing and I was going to do a story about child birth, so I was starting to type in this in Norwegian and I saw this, like this box with some text saying ‘do you wonder why you got these search results? Press here and you can read why’. That was very good, because I’ve often been wondering “why do these results come up?” so that was awesome.”

It has become clear that using INJECT can also be a way for clients to differentiate themselves from other organisations both towards their readers, their investors and their employees: they can use this to show they are at the forefront of journalism innovation has increasingly become a strategic goal for news organisations. The Hallingdølen newspaper published about INJECT and shows indeed their engagement and that they feel proud to be part of this project to some extent (Figure 13).



The image shows a screenshot of a news article from the Hallingdølen newspaper. The article is titled "Hallingdølen deltek i digital innovasjon" and is dated 12.09.2017. The author is Caroline Utti. The article discusses the newspaper's involvement in the development of a new journalist tool called INJECT. A photo shows three people, including a photojournalist and a developer, working together on a computer. The article text is in Norwegian and mentions that the newspaper is testing the tool and that it will be used to improve the quality of journalism.

Figure 13: Article in Hallingdølen titled 'Hallingdølen participates in digital innovation: Hallingdølen is involved in the development of new journalist tools'.

Finally, the INJECT network allows news organisations to work together more closely, and have access to a network of local and international partners. CEO Trond Syversen (Hordaland newspaper) said at the pre-launch that Sunnhordland, Hordaland and Hallingdølen were initially interested in participating in the INJECT project because they were looking for ways to collaborate with each other more closely. INJECT was as much a means to an end as an end in itself for the CEOs.

5 Sustaining the ecosystem

As the project proposal reads: “To sustain the ecosystem, INJECT will cultivate and assess the knowledge and new forms of digital service and tool created by the ecosystem to inform new strategies, activities, roles, technologies, and business models for the future.” The above sections describe how lessons from the ecosystem were used to inform the roles, activities, technologies and business models.

Currently there is a relatively stable ecosystem with clearly identified roles and functions within the ecosystem. The next phase, however, is crucial as INJECT Norway will not have the project budget to rely on any longer. Most of the stakeholders performing instrumental roles in the ecosystem are able to do so as they have budget allocated to them: the ecosystem manager, M’Labs, the tutor, University of Bergen, the agents of change and the users. The next phase is to further work to make the ecosystem self-sustainable.

We address here a number of possible challenges that we can now foresee as part of the launching and managing the ecosystem:

1. Technological issues;
2. Organisational issues;
3. Growing the ecosystem;
4. Building a user community;
5. Gaining paying clients.

We will discuss them in turn here.

5.1 Technological issues

The development team has worked hard to deliver a sustainable version of the technical tool. However, continuous small changes are being made to add to the functionality. This will have to be monitored closely, and there needs to come a structure in place where it is clear who deals with the technical issues and how further developments are funded. Currently there are no urgent or open technical issues.

InCopy

Although Adobe InCopy integration has been delivered by WP1, meeting the request of the Norwegian journalists, the InCopy integration limits the functionality that users get (see Deliverable 1.3).

The current integration allows for INJECT to be fully functional within the context of InCopy, as a native Adobe UI Panel. INJECT could also inter-communicate with the document that the user is working on, but, that functionality has not been implemented in the current

version of INJECT due to the technical complications surrounding the InCopy plugin ecosystem.

It could be part of a future version of the technical tool if a part of INJECT would be re-implemented for InCopy specifically.

5.2 Organisational issues

Archives

As mentioned in section 2.1, using INJECT to search their own archives has been paramount for the Norwegian journalists in the first ecosystem. The archives have been plugged in and indexed by INJECT in August 2017, allowing the journalists at Sunnhordland, Hallingdolen and Hordaland to search their own archives.

To allow INJECT to index and search content added to the archives after this date, Visiolink - the Danish company managing the archives - needs to give INJECT real-time access to these archives to optimise the crawling and the results.

M'Labs is in contact with Visiolink about getting real-time access to the archives.

Tutor role

As identified above, the tutor role is very important. The University of Bergen will continue to follow-up with users at the partner newspapers in the consortium, and has transferred its role as tutor to M'Labs, who now functions as the primary contact point for new users in the first ecosystem.

In addition, University of Bergen has encouraged new users to ask the agents of change within their news organisations in case they have any doubts or questions. The user community could fulfill part of the role of tutor. Users can interact with each other and provide each other support in the use of INJECT (see 'Building a user community' below).

In order to increase the impact of the user community, a platform will be developed on top of the INJECT Norway website that allows users of different newspapers to exchange and access resources (Figure 14). Online courses could serve as a valuable addition to the training offering; allowing users to refresh their knowledge of INJECT any time they wish.

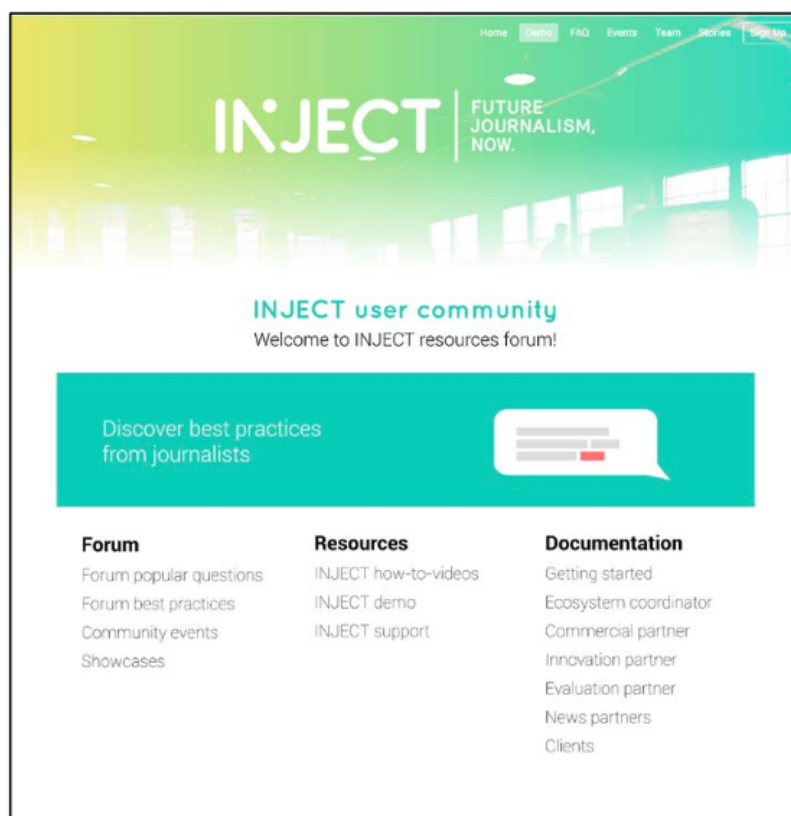


Figure 14: Online user community as suggested in Deliverable 2.1.

To maximise the flow of information within the user community the journalists should also exchange with journalists in other newspapers. Interviews conducted by the University of Groningen with agents of change suggest that they would be more likely to perform an active role in their own newsroom than in other newsrooms:

“I think for INJECT to be used in other newsrooms, I don’t know if I could do that sort of teaching, but I think just having one or two people in their newsroom learning it really well and then (the tutor) teaching others and then them teaching, that would be a good way to start the learning process, to get more people involved.”

University of Bergen has held Skype meetings with all three agents of change at Sunnhordland, Hordaland and Hallingdolen together to discuss their experiences and questions about INJECT. the agents of change have expressed the intention to start contacting each other to exchange experiences and this could be a way to build a sustainable network of exchange.

5.3 Growing the ecosystem beyond the consortium

For INJECT Norway to continue to exist and develop, the ecosystem is inviting others to take on roles in the ecosystem, and secure fresh funding from Norwegian regional and national funding bodies like UH-nett Vest, Fritt Ord, Norwegian Council of Research. INJECT is furthermore aiming to expand into the educational sector, as a provider of creativity tools for journalism students. Deliverable 2.1 mentioned as possible new partners Volda University College, Agder Media and the newly-established Center of Investigative Journalism in Media

City Bergen. Contacts have been established with the following potential partners in the first INJECT ecosystem and possible collaborations are being explored.

We discuss here some of the key roles that need to be covered in the ecosystem.

Clients and Users

One of the main next steps is to gain paying clients and increase the number of users. As mentioned in Section 3.2, the consortium is in contact with an editor at Fanaposten and journalists at Nationen newspaper to introduce INJECT to their newsrooms:

- ❑ Fanaposten (<http://www.fanaposten.no/>) - a small local newspaper in the Bergen area. Fanaposten newspaper showed strong interest in working with INJECT at the annual gathering of local newspaper editors. University of Bergen is in contact with them about starting to use the tool.
- ❑ Nationen (<http://www.nationen.no/>) - a national newspaper in Norway covering local topics such as agriculture, rural districts and food. It is based in Oslo with offices in Trondheim and Fagernes. Two journalists from Nationen newspaper gave their contact details after the presentation at the NxtMedia Conference in Trondheim and WAN-IFRA contacted them afterwards for a Demo and meeting via Skype. They have access to INJECT and are encouraged to use it in their work and share feedback.

In addition, editors from Bergens Tidende attended the pre-launch of the Norwegian ecosystem in its own office building and showed great interest in the INJECT tool. M'Labs will follow up with Bergens Tidende to introduce INJECT in their newsroom:

- ❑ Bergens Tidende (<https://www.bt.no/>) - A large regional newspaper with offices in Media City Bergen. M'Labs and University of Bergen will continue dialogue with them with the goal of getting them into the ecosystem. As Bergens Tidende covers the second largest region in Norway, their participation would mean goodwill and easy access to several of the local newspapers in adjacent municipalities/regions.

Communication and Dissemination

One of the main roles to create awareness, build the user community and spread news and increase commitment to the tool, the tasks of communication and dissemination are key ones that need to be covered in the ecosystem. The Norwegian Center of Expertise for Media could support the further roll-out of INJECT Norway.

NCE Media is a media cluster located in Bergen that both the University of Bergen and M'Labs are members of. The University of Bergen moreover has offices in Media City Bergen, which is the physical presence of the NCE Media cluster.

Companies involved in NCE Media benefit from a strong foundation which supports them in the initiation and execution of innovation processes, including collaboration with relevant business partners and experts. The Center also aims to assist in the process of commercialisation of business ideas and the search for external partners.

Expanding the INJECT product and services

One of the ways in which the ecosystem will have increased sustainability is when the tool that is at the heart of it is not a static but rather dynamic product. There are already a number of developments that demonstrate the way in which the tool is attracting further partners who can add to its functionality and the services provided as part of the package.

Technology company Wolftech is developing a new type of content management system for media organisations and sees three possible ways to work together with INJECT: INJECT could replace the newshunter feature in their CMS, that is similar to INJECT but much less sophisticated; the INJECT tool uses machine learning techniques that in the future could be extended to Artificial Intelligence, a technology that Wolftech wants to explore further as well; partners in the INJECT consortium have good relations with large newspaper organisations, while Wolftech is mainly working with broadcast organisation at this moment.

Contact has been established with Wolftech through a private Demo session before the pre-launch event. M'Labs and the University of Bergen are exploring ways to work together with Wolftech to increase the impact of the INJECT product and services in the first ecosystem.

In addition, University of Bergen is working with Volda University College on prototypes of a data visualisation tool for local journalism that could be integrated into INJECT to extend the services and adapt them to the local market, potentially making it more useful and valuable for the local users.

Education and training

To increase the impact that the INJECT tool has, it is important to focus not only on the technical functions of the tool, but also use the way in which this contributes to the way in which creative thinking in journalism is conducted. To this end, education and training partners are instrumental. Volda University College, one of the prospective partners, has one of the most prominent journalism programmes in Norway and has expressed interest in letting its students produce stories using INJECT for their website with a readership of 19 000.

Lars Nyre (University of Bergen) is in contact with Ana Laws (Volda University College). Ana Laws presented possibilities for collaboration at the seminar in Bergen on 25 August 2017 (Figure 15), and in an interview published on injectproject.eu:

<https://injectproject.eu/2017/10/24/ana-laws-inject-not-tool-different-way-thinking-journalism/>



Figure 15: Associate Professor Ana Laws (Volda University College) presents idea to strengthen INJECT Norway with data visualisation tool.

5.4 Building a user community

The user community provides an entry point for the ecosystem to maintain its own growth: it is key to making the ecosystem sustain over time. The main challenges for building a user community in the Norwegian ecosystem as identified by the University of Bergen and the University of Groningen are:

- The initial mindset of new users that forms a barrier for them to start using the tool;
- Journalists' lack of time and demanding working days in local newsrooms;
- Self-confidence about use of the tool.

Users' expectations about the tool

The main challenge agents of change encounter when introducing INJECT to new users is their initial understanding of the tool as just another search engine. They recount negotiations that they are having with their colleagues to convince them to start using INJECT. One agent of change explains:

“The main problem when you introduce it (INJECT) to new people is that (they say), “ah, but I can use Google to do this”. Yeah, but this is not Google. You have to step out of this way of thinking, then you can learn something. And I must tell them that

this is not an advanced tool. It's not finished yet, it's not made over centuries ready to be used. It's in a construction phase. So I often have these discussions and I have to defend it; what is this? Why? "But we can use Google!"

Guided introduction to INJECT through trainings allows consortium members to manage new users' expectations about the tool. One of the most effective ways to counter the idea that many new users initially have that INJECT is just another Google for example, is by allowing new users to see for themselves what INJECT could do for them personally, and how it delivers them results that are different from Google.

The tutor from the University of Bergen explains how a training helped this journalist to change his mind and convince the journalist to use INJECT:

"(One new journalist) had already made up his mind about the tool and was very deterministic, so I used a lot of time to talk and respond to his criticism. And eventually, after 40 minutes talking he was very positive to use the tool because I had showed every functionality in detail and talked about them and how it could help him with his examples. For instance, he was talking about setting up the Christmas lights, so he used one of the examples to write a new story. So I think that's working very well, to use examples of news stories they are going to write, so they can have a more personal experience."

We also need to consider the choice of words to describe INJECT to new potential users. Instead of presenting it as a creative search engine, consortium members are describing it as a suggestion machine, an inspiration tool and a creative discovery tool. The agents of change say they talk to colleagues in the newsroom about INJECT as a tool that helps to find new angles.

Finding the time to use INJECT

A general lack of time might lead agents of change to use INJECT less than they intended, or might limit new users to start using INJECT at all. Even if the journalists are enthusiastic, the reality of their working day may result in less effective uptake of the tool.

The agents of change say they do not manage to use INJECT as often as they would like. One of them explains how, even though he sees the value of INJECT and there is a will to experiment, the daily reality of work at a local newspaper sometimes gets in the way of exploring new ways of doing journalism. Still, he concluded, a lack of time should not be an excuse:

"we are a very small group of journalists, we have a lot of production pressure to make the newspaper and to keep the web page up and running all day long. Even in weekends and everything and that. It could be hard to find time to explore something new. But it's not a good enough excuse, if you know what I mean. So it's just a matter of if you're open-minded and interested, you can use it."

INJECT is most useful for longer, background articles that can be planned a bit in advance,

while the agents of change in the first ecosystem are local journalists who say they first and foremost have to report on the events going on in their region and use the time that's left after this for more in-depth stories.

University of Bergen in its role of tutor follows up weekly with the agents of change via short phone calls. While initially meant as an opportunity for the agents of change to ask questions and allow for guided adoption of the tool in the newsrooms, the agents of change admit these phone calls also serve as a reminder for them to use the tool more often:

“[The tutor] is calling me every week. He's doing follow-ups: ‘Hey, how are you, how are you doing with INJECT?’ So I always get bad consciousness about how I... but that's very good, because he's into the project and he follows up very good.”

We can consider how to build in such encouragement into the system so as to build commitment to and engagement with the tool.

Journalist's self-confidence

The aim is that as the agents of change become more confident about their use of INJECT, they will take on a more active role as trainers, a key step in making the ecosystem sustainable as the University of Bergen hands over its role as tutor. A challenge in getting the agents of change to take on a more active role in the ecosystem could be their lack of self esteem in that they are the experts in using INJECT.

A key concern expressed in D2.1 was that the agents of change did not feel they were using INJECT as intended. University of Bergen has put effort in increasing their self esteem by reassuring them continuously that they are in fact the experts on using INJECT to write stories.

The agents of change are deemed crucial in managing the ecosystem bottom-up, ensuring its sustainability. One agent of change hesitated when asked to demonstrate INJECT at the pre-launch event as she felt she might not know the tool well enough yet, but she agreed to it as it was also “awesome to be asked to do that”.

By reassuring agents of change about their expertise when it comes to using INJECT and partnering with them in the training of new users, they are expected to feel more engaged in and confident about INJECT.

This is why the tutor role has been so important for the successful adoption of INJECT in news organisations and for building the user community. With the University of Bergen withdrawing from this role, new ways of filling this gap need to be considered.

A key moment seems when one agent of change stops wondering about how she's supposed to use INJECT and starts focusing on how INJECT is most useful to her:

“I see (INJECT) having a use doing certain articles or like feature stories and I think it was kind of expected in the beginning that we were going to... I don't know if it was expected but I felt like it was, that we had to use INJECT all the time, for every article, like “test it, test it, test it”, but I quickly figured out that it's not going to work for

me using INJECT if a car accident happened. We do everything in a local newspaper, so if I'm at a football game, there's no room for using INJECT to get a new angle."

Again, it is important to identify the ways in which agents of change can be supported in their role, so that they can adequately take over the role from the tutor.

5.5 Gaining paying clients and business model

The Norwegian market

There are several hundred local newspapers in Norway and as such there is a large potential market for INJECT Norway. At the same time, we know that uptake of a new tool is slow. INJECT Norway is therefore focusing its strategy on quality in clients over quantity: focusing on specific prospective partners is the main aim now, rather than covering the whole market.

Based on experience from M'Labs as a commercial partner, a best, average and worst income scenario have been identified that will support the business development process (Table 2).

Total sales numbers in Norway				
Market		Best case	Average case	Worst case
	INJECT partner contracts	40	20	8
	INJECT partner single user per annum	120	60	24
	INJECT standard archive customisation	10	6	1
	INJECT medium archive customisation	4	2	0
	INJECT complex archive customisation	2	1	0
	Advanced creativity in journalism course	5	2	0

Pricing				

	INJECT partner contract setup price	2.000 €		
	INJECT partner single user per annum	150 €		
	INJECT standard archive customisation price	2.000 €		
	INJECT medium archive customisation price	6.000 €		
	INJECT complex archive customisation price	10.000 €		
	Advanced creativity in journalism course	750 €		
Single income estimates		Best case	Average case	Worst case
	From INJECT partner contracts	32.000 €	16.000 €	6.400 €
	From INJECT standard archive customisation	16.000 €	9.600 €	1.600 €
	From INJECT medium archive customisation	19.200 €	9.600 €	0 €
	From INJECT complex archive customisation	16.000 €	8.000 €	0 €
	From advanced creativity in journalism course	3.750 €	1.500 €	0 €

Table 2: Best, average and worst case revenue scenarios for INJECT Norway.

Business model

Ultimately, INJECT should be a self-sufficient organisation and as such the main focus right now is to bring new paying customers into the ecosystem so that the enterprise is able to hold its own without need for continuous third-party funding. In order to make the business model more resilient, M'Labs is exploring ways to diversify INJECT Norway's revenue sources, at least in the short run.

One option is to integrate INJECT into existing services around creativity that M'Labs is currently offering. INJECT could be brought into a creativity training/digitalisation package as a training tool and offered for sale for use outside of the training.

There are several funds available in Norway that financially support the early stages of business development. While the business model is being tested and adjusted, M'Labs is also identifying these funds that could support putting INJECT in the market solidly (see www.innovationnorway.no and <https://www.forskningsradet.no/no/Forsiden/1173185591033>). Some of these are tied to the Nynorsk language and its impact on governmental communication, while others are tied to innovation and co-creation in journalism and media in general. Also, an organisation like <http://www.gcrieber-fondene.no> is open to suggestions for innovative projects that strengthen Norwegian commerce.

WP4 will test and refine the pricing structure (Section 2.2) and business model further in order to identify how much and in what ways potential customers would be most likely to accept signing a contract with INJECT.

Special offer for new clients

The first real success stories of signing paying clients to INJECT Norway will show that there is a market for INJECT in Norway and that there are active users. This is considered important in helping to convince additional clients.

Offering the first clients a complementary integration of their archives, is expected to encourage clients to sign a contract with INJECT in these early stages of the business.

Set up new clients

When INJECT Norway will start to have clients, the ecosystem coordinator (see Figure 16) will:

- set up service contracts with INJECT Norway clients;
- set up licensing contracts with the INJECT software providers;
- handle financial transactions between INJECT Norway and its clients;
- handle financial transactions between INJECT Norway and the INJECT software providers;
- arrange the technical integration of INJECT in the client's organisation with the INJECT software pr
- be the contact point for technical problems clients may have with INJECT Norway;
- arrange a solution for the technical problems clients may have with INJECT Norway.

Technical set-up



Figure 16: Step-by-step INJECT setup for new clients.

For software providers City, University of London and ICCS to have the basic information needed to decide whether integration is feasible for a potential new client, the ecosystem coordinator will ask the client a standard set of questions about the archive and work environment:

- The database/storage for the archives;
- The size of the archive database (number of articles, etc.)
- The in-house CMS(s) that are used;
- In case of Adobe InCopy: ask Adobe admins about the version of InCopy used to allow deployment
- The different language preferences;
- Styles of news article best-suited;
- Number of projected users;
- Allowed privacy, encryption.

Having this information from the start could minimise the challenges in rolling-out INJECT, as expectations of new clients can be managed at the front door and based on this information it can be decided how best to proceed.

6 Conclusion

The hurdles, roles, challenges and opportunities reported on here, are not only of value in describing this particular ecosystem. They also have valid lessons for the next ecosystems in which INJECT will be rolled out. In particular the challenges mentioned in this chapter seem to hold true for many of the other markets we are currently testing INJECT. At the same time it's important to note, as Van Everdingen and Waarts (2003)³ point out "Even within Europe, large cultural differences exist that substantially affect the adoption of innovations." Moreover, SMEs are likely to be more embedded in national cultures than large multinational organisations. Therefore, cultural differences should be taken into account when determining the degree of applicability of the strategies presented in this Deliverable for the roll-out of INJECT in other countries.

³ Van Everdingen, Y. M., & Waarts, E. (2003). The effect of national culture on the adoption of innovations. *Marketing Letters*, 14(3), 217-232.