

# Public Communication Materials

MARIO Project, Deliverable D10.3



# D10.3

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Reviewer(s):	Dympna Casey
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# Executive Summary



Many people with dementia live meaningful lives and retain many abilities if a supportive psycho-social environment exists. However people with dementia report that dementia affects their confidence to engage in social activities, leaving them lonely and isolated. The impact therefore is life limiting and places significant burden on individuals and societal support systems. The MARIO project addresses these difficult challenges through the use of caring service robots. This 3 year €4 million project is funded by the European Union's Horizon 2020 research and innovation programme, within the thematic section 'Societal Challenge on Health, Demographic Change and Wellbeing'. Co-ordinated by the National University of Ireland the project assembles a team of experts including people with dementia and dementia support groups as well as, the well-known Kompai platform and commercial footprint of ROBOSOFT, the control expertise of RU Robots, advances from the computer laboratories at CNR, the innovative robot application development platform by Ortellio; the dedicated telecommunications of CNET and the exploitation experts (R2M) who will exploit the wider technical and market outreach potential of the MARIO project. These international experts will work collaboratively to develop the companion robot 'Mario Kompai.' In developing and validating the robot, three pilot studies will be undertaken where the Mario Kompai interacts with older people, people with dementia and their caregivers. A special area of focus is also to use the robot as a tool for caregivers and staff to assess and monitor patients in new and better ways. The first pilots will be undertaken in two long stay care residential settings in the West of Ireland, the second in community settings in Stockport, UK, and the third in the acute hospital setting in Casa Sollievo della Sofferenza Hospital southern Italy. The MARIO project will lead to advances in the use of semantic data analytics, personal interactions, and unique applications tailored to better connect older persons to their care providers, community, own social circle and also to their personal interests. This project, dominated and guided by a user perspective, will advance the EU's scientific and market leadership in service robots.



# Texts

Texts from blog posts, posters, interviews etc., in different languages which can be used for producing additional dissemination material



# Blog posts and articles

- [Loneliness by Mario Kompai the Robot](#)
- [Dementia from the inside.. a film by the Social Care Institute for Excellence](#)
- [MARIO in the German press](#)
- [Article in Lifo.gr \(Greek e-magazine\)](#)
- [Article in El Pais \(Spanish newspaper\)](#)
- [Article in Panorama \(Italian news magazine\)](#)
- [Article in New economy \(Manchester\)](#)



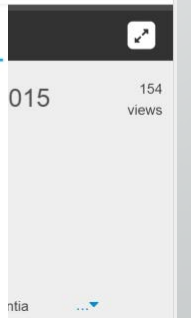
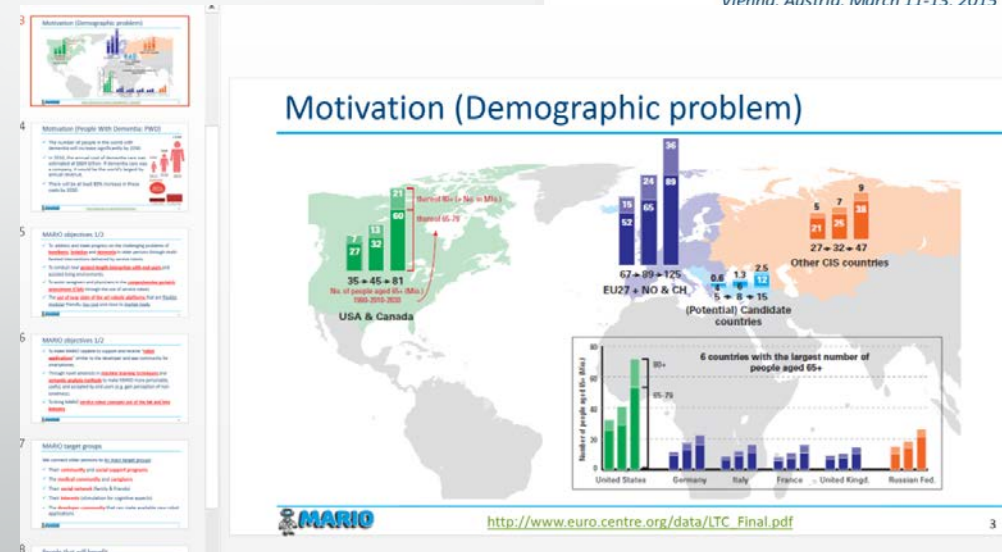
# Blog posts and articles

- [Robot & Gran – renowned robotics expert advises UK government on robot care \(University of Sheffield blog post\)](#)
- [Blog post in Ortelio's Web site](#)
- [Bio Centre blog post](#)
- [Fundacion Carlos Slim blog post](#)
- [Radio Interview in Greek Radio station](#)  
[Athina 9.84](#)



# Presentations

- Short presentation of Project
- Presentation given in ERF 2015





# Papers and posters

- [12<sup>th</sup> Extended Semantic Web Conference 2015 \(Poster\)](#)
- [The Emerging Policy and Ethics of Human Robot Interaction \(Paper\)](#)
- [5th International Nursing and Midwifery Conference 2015 \(Poster\)](#)

### Robot-assisted care for elderly with dementia: is there a potential for genuine end-user empowerment?

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#### ABSTRACT

In this paper, we describe considerations arising in relation to the achievement of an ethical design process for an assistive care robot within the H2020 project MARIO. Envisaged end-users of the robot are elderly with mild to moderate dementia in residential care and community settings. MARIO aims to achieve a value sensitive design process with significant end-user involvement in the design of the robot, eliciting their preferences regarding desirable functionalities and identifying ethical concerns. The realization of this participatory approach with persons with dementia raises a number of ethical challenges that the project aims to address.

#### Categories and Subject Descriptors

K.4.1 [Public Policy Issues]: Ethics; K.4.2 [Social Issues]: Assistive technologies for persons with disabilities

#### General Terms

Human Factors

#### Keywords

Robot-assisted care, ambient assisted living, dementia, ethics, user perspectives

#### 1. ROBOT SUPPORT FOR PERSONS WITH DEMENTIA

Dementia is a disability characterized by impaired mental functioning in areas such as memory, learning, judgment, attention, concentration, language and thinking. These impairments are often accompanied by personality, functional ability and behavioral changes. While many European governments aim to enable people with dementia to live well with dementia through their participation in inclusive communities, the reality is that many people with dementia experience social exclusion, loneliness and isolation which contribute to further cognitive decline. This can result in the premature admission of

the persons with dementia to costly long-stay care. The use of ICT has been proposed to ensure safety, assist with daily living, and combat isolation and loneliness, and thereby build resilience in people with dementia, facilitating lives in their own homes rather than residential institutions. Exploring the possibilities of Robot Assisted Care and Ambient Assisted Living for this demographic has become an explicit policy prerogative at EU level, as evidenced by recent European funding for FP7 ROBBIT, FP7 ACCOMPANY, FP7 GreatPlus, FP7 Companionable, FP7 ALFRED, or IREATHES, ALL IP. Ambient assisted living solutions focus primarily on monitoring and safety and facilitate telepresence. Companion robots that generate feelings and affection and engage persons with dementia in interactions with robots have been found to have some positive effects on well-being. Robot assistants for the elderly have been developed to provide a range of supports, including feeding, physical exercises, medication reminders, monitoring of safety and well-being, providing games and cognitive stimulation, and the facilitation of social interaction. Many recent developments aim to combine elements of companionship with other functions. It has become apparent that user acceptability of such robots is a concern and that provided functionalities may not always meet users' needs.

#### 2. CORE ETHICAL CONCERNS REGARDING ASSISTIVE ROBOTS

Assistive robotics and socially interactive robotics raise specific ethical issues, in relation to their interactions with end users, and in relation to the social impact and wider social significance of their use, issues that have increasingly been discussed in the literature. Past EU projects have explicitly addressed ethical issues in relation to robotics and/or ambient assisted, including for example the EURON Robotics Roadmap, the FP6 project ETHICROTS, or the ICT & Ageing Project, and most current projects in the field include some form of ethical reflection. Commonly discussed ethical concerns include:

- privacy, both in relation to data privacy of the potentially complex and intrusive personal data collected by the robot, and also in relation to the user's experienced privacy, specifically regarding robots that

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## MARIO

Managing active and healthy aging with use of caring service robots

Casey, D., Kouroupetrolou, A., Murphy, K., on Behalf of the MARIO Research Team

roboticstoday.com | EURONOTICS | artellio | STOCKPORT | R2M SOLUTION | smart4u.net |

### Introduction and Background

The number of people with dementia is expected to reach 81.1 million by 2040. The current paradigm of health care is one of exclusion, services in the community are fragmented and carers and PWD are struggling to cope. Exclusionary attitudes have led them to be seen as incapable, without personhood resulting in isolation, stigma and poor care outcomes. Loneliness and the effects suffered by PWD, effective techniques include those that increase a person's resilience, an adaptive capacity that refers to one's ability to 'bounce back' and cope in the face of adversity. Interventions focusing on the personal attributes and external assets (i.e. resilience) of PWD show much promise as they may help retain autonomy and reduce social exclusion. ICT solutions can be used to increase psychological skills like resilience (Norris et al.) and is also important new research in the use of robots to deliver ICT solutions and to act as companions (combating loneliness) via a novel user-centred concept called 'Mutual Care' which provides the possibility for the human to 'take on' like a partner (FP7). In this way, real feelings and affections are created making it easier to accept assistance from a team situation - in return the human can also support the machine.

### MARIO

The MARIO project aims to manage active and healthy aging through the use of caring service robots. It is a €4 million European Union's Horizon 2020 funded research and innovation programme, within the thematic section 'Societal Challenge on Health, Demographic Change and Wellbeing'. It brings together a team of international experts from academia, industry and dementia groups to work collaboratively in tackling the burdens imposed by dementia and developing innovative solutions using caring robots. The technology at the heart of MARIO is the robot Kompi, designed and developed by a consortium partner, French company RoboSoft. Other partners in the consortium will provide technological expertise in the areas of robotic applications and semantic computing.

The project will last for three years during which three pilot studies of robots interacting with people with dementia will be undertaken. The first pilot will run in the West of Ireland, organised by NUI Galway's School of Nursing and Midwifery, the second will run in Stockport, UK, organised by the city's health care managers, while the third will run in Italy, organised by a leading research hospital, Casa Sollievo della Sofferenza, which is pushing research boundaries in comprehensive geriatric assessment. The outcomes of the research are expected to be of great benefit to people with dementia as well as lead to commercial opportunities for cutting-edge technology companies.

### fearing

### Illustrative Example of the MARIO Concept

ives alone in the suburbs. His only daughter was worried and asked him to move city apartment in the same building as his daughter. Both his daughter and her not of his time in his small apartment on his own. He didn't have anyone to talk night his daughter came to his apartment to find him disoriented and stressed, ed with MCI (mild cognitive impairment). His daughter didn't want to admit Mr. not stay with him all day. The doctor suggested an alternative: the MARIO robot.

his strange couple looked like 'best friends'. MARIO monitored Mr. Hope's daily reports, directly to his doctor. MARIO also recorded if Mr. Hope was eating 'nd to talk to. He called MARIO to follow him around the apartment describing u can't have an ice cream but I will tell you how it feels'. MARIO's had memory ame time enhancing his attention and memory; they were also fun. MARIO also of birthdays and social events. Based on MARIO's reports, his doctor suggested a health status and maintain his independence. Everyone felt happier.

www.mario-project.eu

Scan this to find out more about MARIO

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#### Abstract

Worldwide, the number of people with dementia is expected to reach 81.1 million by 2040. Current health care strategies are insufficient to cope with this epidemic and the reality is that dementia care is under-prioritised and... [ [view full abstract](#) ]

#### Authors

Dympna Casey (NUI Galway), Kathy Murphy (NUI )

#### Session

OS-3B:2 - OS-3 life course 2 (14:40 - Monday, 30th March, Classroom 2)



# Images

Pictures and images used in interviews and other dissemination material



# Event images





# Article images



# Logos and social media covers



Social media cover

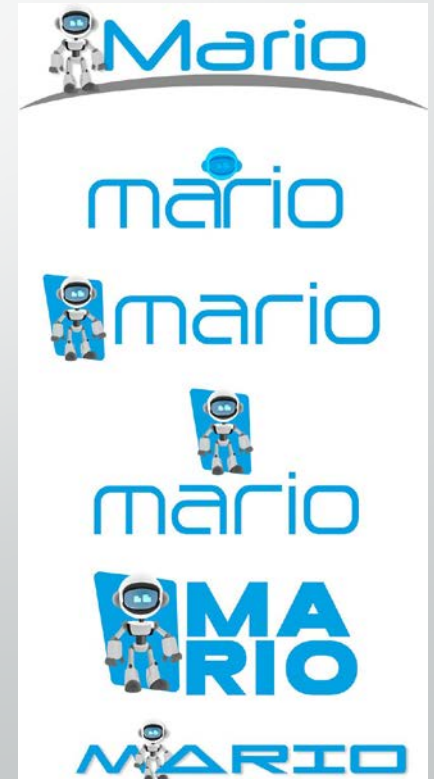


Profile picture on social media



Latest version of logo used on the site

Early logo versions





# Social media content

Content presented in social media accounts

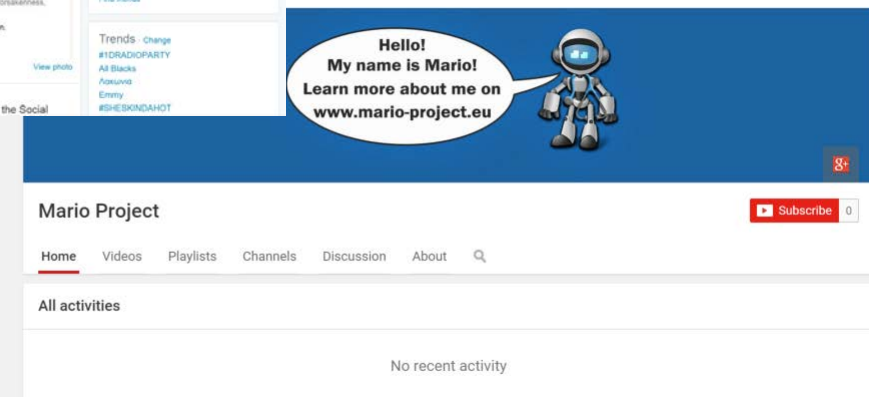
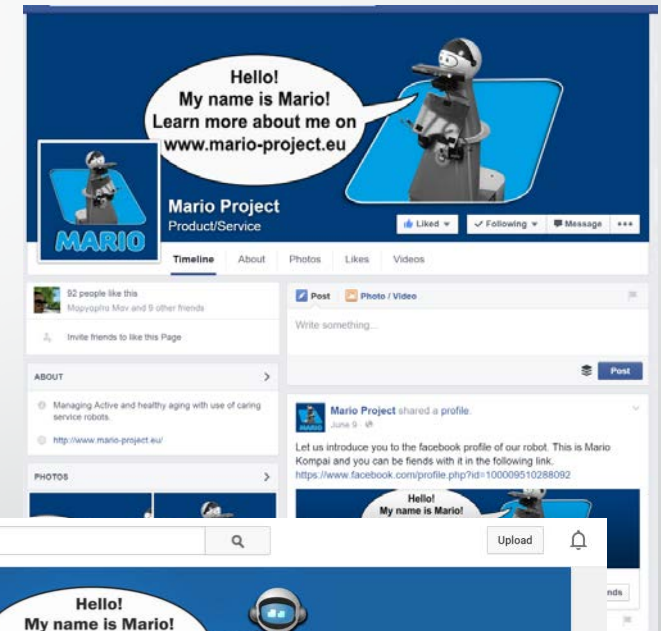
# Social media account groups

- Mario project group
  - Dissemination channel for anything related with the MARIO project (Events, News, Blog posts, Press releases, etc.).
  - Formal presentation of news related with the project
- Mario Kumpaï group
  - Direct communication channel of the robot (presented as a person) with end-users and stakeholders
  - More informal communication and stimulation of discussions



# Mario Project group

- [Facebook page](#)
- [Twitter](#)
- [Google+](#)
- [YouTube](#)



Home | Mario Project
www.mario-project.eu/portal/
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Bookmarks
Suggested Sites
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Blackboard Learn
ISS Service Desk Tic...
Staff Intranet
Imported From IE
MARIO EU Portal
Basecamp Launchpad
Procurement, Natio...
Staff Profiles - NUI...
Home - Research Pa...
Other bookmarks

Home
Vision
Project
Consortium
Communication
Contact

## Workplan

MARIO will use a 36 month work program and 11 work packages controlled by 5 project milestones, in order to integrate the diverse sectors, skills, and capabilities of the consortium in a logical evolution of the work packages.

[Read more...](#)

## MARIO Project

Managing Active and healthy aging with use of caRing service robots.

MARIO addresses the difficult challenges of loneliness, isolation and dementia in older persons through innovative and multi-faceted inventions delivered by service robots. The effects of these conditions are severe and life-limiting. They burden individuals and societal support systems. Human intervention is costly but the severity can be prevented and/or mitigated by simple changes in self-perception and brain stimulation mediated by robots.

From this unique combination, clear advances are made in the use of semantic data analytics, personal interaction, and unique applications tailored to better connect older persons to their care providers, community, own social circle and also to their personal interests. Each objective is developed with a focus on loneliness, isolation and dementia. The impact centres on deep progress toward EU scientific and market leadership in service robots and a user driven solution for this major societal challenge. The competitive advantage is the ability to treat tough challenges appropriately. In addition, a clear path has been developed on how to bring MARIO solutions to the end users through market deployment.

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## Latest News

- Loneliness by Mario Kompai the Robot
- Dementia from the inside.. a film by the Social Care Institute for Excellence
- MARIO presented in the EU Project Networking session at ESWC 2015
- MARIO in the German press
- The only thing worse than being talked about is not being talked about...

## Press Kit

- MARIO Poster
- MARIO Project - Short Presentation
- MARIO: A new European research project to advance active and healthy ageing with use of service robots

<http://www.mario-project.eu/portal/>



# Consortium posts



**Andy Bleaden** @andybleaden · Feb 17  
Partners in **Mario** working on setting vision and USP of **Mario** European Commission funded project combining CGA/Assist...[lnkd.in/dUCrB3k](https://lnkd.in/dUCrB3k)



**Andy Bleaden** @andybleaden · Feb 17  
First day kick off for Project **Mario** Horizon 2020 meeting Galway funded by European Commission looking at state of t...[lnkd.in/dNN5FNS](https://lnkd.in/dNN5FNS)



H2020 SME Instrument and 2 others follow



**ActiveHealthyAgeing** @EIP\_AHA · Apr 27  
RT @andybleaden: @mario\_\_project: **MARIO** in @lifomag - 1 of the leading Greek electronic magazines [lifo.gr/team/bitsandpi...](https://lifo.gr/team/bitsandpi...)

**LIFO**



Το ρομπότ που βοηθά άτομα με προβλήματα άνοιας έχει και λίγη Ελλάδα...

By LIFO @lifomag

Ο Χρήστος Κουρουπέτρογλου εξηγεί γιατί ο **MARIO** είναι ένα χρήσιμο ρομπότ για τον παππού και την γιαγιά

[View on web](#)



**Andy Bleaden** @andybleaden · 7h  
[@mario\\_\\_project](#)

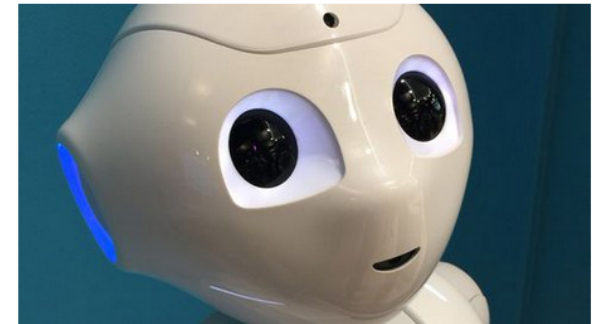


**FET\_EU** @fet\_eu  
SocSMCs #H2020 #FETproject: studying #social contingencies with #robots buff.ly/1fgCPxB via @PALRobotics



**lexinerus** @lexinerus · Jul 2  
ReTw andybleaden: Robots on the march [bbc.co.uk/news/technolog...](https://bbc.co.uk/news/technolog...) Really great and inspiring for the [mario\\_\\_project](#) EIP\_AHA #isolation #dement...

**BBC News (UK)**



**Robots on the march - BBC News**

By BBC News (UK) @BBCNews

A range of robots are on display at the Innorobo event in France, including the most advanced domestic robot to go on sale to the public.

[View on web](#)

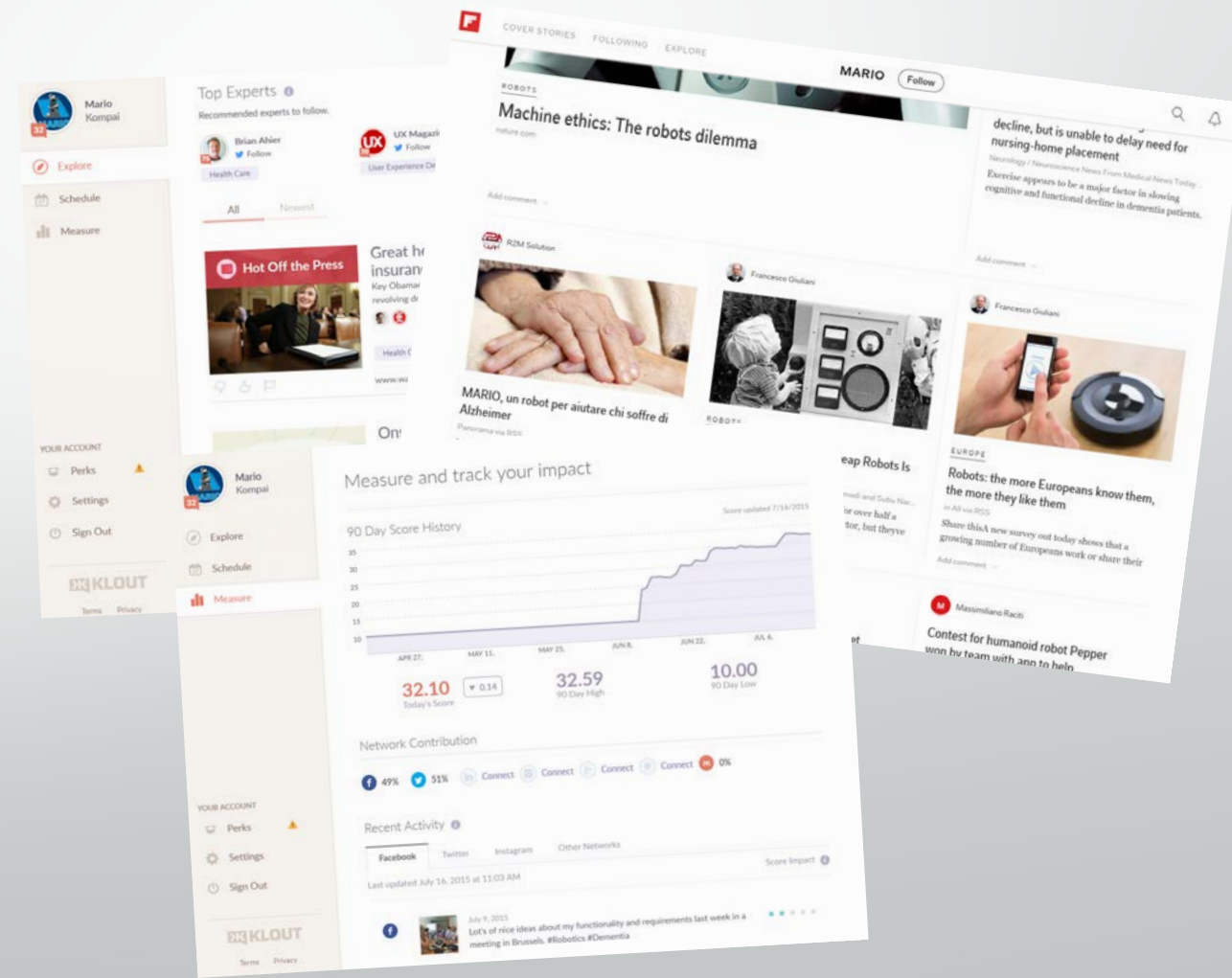
# Mario Kompai group

- [Facebook profile](#)
- [Twitter](#)



# Social media content discovery and repository

- [Klout for discovery and impact measurement](#)
- [Flipboard for content repository](#)





# Sample posts

