

Communication strategy

Hybrid Intelligence Centre

1 Introduction Communication Strategy

Project communication entails all communication and can be divided in two categories; internal and external communication. Both internal and external communication are supported by the present Action Plan, Communication Policy, Project Manual and Templates/forms/list/tools and together they build the communication part of the Impact Plan.

The communication Strategy aims to achieve transparent and thorough internal communication enabling all Hybrid Intelligence (HI) consortium members to contribute to the project and each other's work. To deliver on the project's overall goals several communication channels have been established and yearly an action plan will be generated to optimise the internal project communication and the quality of the project output.

2 Internal Communication Strategy

2.1 Internal communication Objectives

The main objectives of the internal project communication are:

1. Optimal internal communication
2. Foster coherence between the separate parts of the projects
3. Achieve a common understanding of the project's overall goal and the current status of the project

2.2 Internal Communication Channels

The following internal channels are used in the HI consortium:

- Regular meetings
- Shared spaces
- Slack messaging platform
- Mailing lists (a.o. consortium-wide and per research line, challenge or Special Interest Group)
- Newsletter
- Document collaboration
- Sharing code and data

We provide, as examples, the realised internal communication activities of 2022.

2.3 Internal Communication 2022

The internal communication activities of the HI Project of 2022 are summarized in [Table 1](#).

Table 1: Realised Internal Communication Activities of 2022

Medium	Audience	Responsible	Planned Timing	Realisation
Consortium meeting	Full consortium	Project Manager	3-4x/year	3 Feb online, 10 Mar Delft, 22-23 Sept Hoofddorp
Journal club	PhD candidates and Postdocs of HI	Rineke Verbrugge	bi-weekly	✓ occasionally onsite
Research Line meeting	Collaborative HI members	RL Coordinator	4-6 weeks	Jan, Mar, April, May (2 meetings), Jul, Oct, Nov, Dec
Research Line meeting	Adaptive HI members	RL Coordinator	4-6 weeks	Jan, May, Sept, Nov
Research Line meeting	Responsible HI members	RL Coordinator	4-6 weeks	Jan, May, Sept, Nov
Research Line meeting	Explainable HI members	RL Coordinator	4-6 weeks	24 Feb
HI-ESDiT committee	HI & ESDiT leaders	Birna van Riemsdijk	3-4 per year	Mar, Jun, Sep, Nov
Research Line Coordinator meeting	Research Line Coordinators	MT	monthly	✓, not in August
Case Study Robotic Surgery	interested HI members & Taskforce members	Catholijn Jonker	n.a.	20 June
2nd Cohort open call meeting	2nd Cohort writers and interested members	MT	n.a.	21 Oct, 26 Oct
Dialogue Cluster meeting	HI members	Catha Oertel	n.a.	11 Nov
Taskforce meeting	Taskforce members	Taskforce Coordinator	bi-weekly, Wednesday at 13:00 - 15:00	skipped once in May, June, Oct, Nov
Executive Board meeting	Executive Board	Management Team	Monthly, every 1st Wednesday of the month 14:00 - 15:00	✓, not in August
Management Team meeting	Management Team	Management Team	Weekly, Fridays 16:00 - 17:00	✓, with a summerbreak

Table 1: Realised Internal Communication Activities of 2022

Medium	Audience	Responsible	Planned Timing	Realisation
Management Team meeting Strategy	Management Team	Management Team	n.a.	19 May, 25 Aug

3 External Communication Strategy

The External Communication Strategy supports the overall goals of the Hybrid Intelligence (HI) consortium and takes its Key Message to the target audience with the purpose to inform them about the project’s achievements and initiatives. Next to informing, external project communication may enhance the uptake of the project outcomes by stakeholders and provide nuance to the debate on Artificial Intelligence. Typical means of external communication are publications, workshops, and conferences on project accomplishments, presentations at (inter)national events and contributions to opinion and discussion programs on radio and TV. The Communication Strategy aims at designing and delivering external project communication that speaks to the target audience and the HI stakeholders.

3.1 External Communication Objectives

The main objectives of the external project communication are:

1. Promoting project progress and achievements to a wider audience.
2. Raise the interest and foster active involvement of other, similar initiatives and groups to bring additional knowledge and data into the project.
3. Seek support and advice from the target groups who are partly involved in the project and obtain feedback from the target audience.
4. Promote the uptake of the project outcomes to enhance the potential benefit of HI for academia and industries of the future.
5. Provide nuance to the current societal and public debate on Artificial Intelligence.

3.2 External Communication Channels

The following external channels will be used in the HI consortium targeting the wider scientific communication through meetings, workshops, and conferences:

- [HI Website](#)
- [Scientific publications](#)
- [Scientific Presentations](#)
- [HHAI conference](#)
- Regular HI Newsletter (external)
- [Communication to the public](#)

After a cost/benefit analysis we consciously decided against using project-specific Social Media channels in the current phase of the project.

After presenting the External Communication Channels, we provide, as examples, the realised external communication activities of 2022.

3.3 External Communication 2022

The activities of the HI project in 2022 are summarized in [Table 2](#), and reflect the [HI meeting calendar](#), the [HI publications](#), and the [HI presentations](#).

Table 2: External Communication Activities of 2022

Medium	Audience	Responsible	Timing
Scientific publications	Possible collaboration partners, other scientists and technology developers	Project members	Ongoing
Scientific presentations	Possible collaboration partners, other scientists and technology developers, and societal institutions	Project members	Ongoing
HHAI First International Conference with peer-reviewed articles	International Research Community	Management Team, Stefan Schlobach	13-17 June, 2022
Heterodox Methods for Interpretable and Efficient Artificial Intelligence Workshop	International research community	HI members with international colleagues	HHAI2022 13-17 June, 2022
Knowledge Representation for Hybrid Intelligence Workshop	International research community	HI members with international colleagues	HHAI2022 13-17 June, 2022
Human-centered Design of Symbiotic Hybrid Intelligence Workshop	International research community	HI members with international colleagues	HHAI2022 13-17 June, 2022
The (eco)systemic challenges in AI Workshop	International research community	HI members with international colleagues	HHAI2022 13-17 June, 2022
Representation, sharing and evaluation of multimodal agent interaction Workshop	International research community	HI members with international colleagues	HHAI2022 13-17 June, 2022

Table 2: External Communication Activities of 2022

Medium	Audience	Responsible	Timing
H3AI Hackaton	International research community, Industrial AI developers, Societal stakeholders	HI members with international colleagues	HHAI2022 13-17 June, 2022
SIKS-AI course Responsible AI	PhD candidates from HI and SIKS	Rineke Verbrugge, Birna van Riemsdijk & Bart Verheij	21-22 & 28-29 June 2022
SIKS-AI course Explainable AI	PhD candidates from HI and SIKS	Rineke Verbrugge, Afra Alishahi	21-22 September 2021
SIKS-AI course Hybrid Intelligence	PhD candidates from HI and SIKS	Annette ten Teije, Frank van Harmelen, & Perry Groot	25-26 May 2021
Newsletter on the website	All stakeholders	MT	Dec 2022
Annual Reports	All stakeholders, befriended consortia	MT	Spring 2023
Social Media	International research community, all stakeholders	MT	not planned for 2023

4 Stakeholder Analysis

4.1 Who we are

The Hybrid Intelligence (HI) Centre is a collaboration of top AI researchers from the VU Amsterdam, the University of Amsterdam, the TU Delft, and the Universities of Groningen, Leiden, Utrecht and Twente, in areas such as machine learning, knowledge representation, natural language understanding & generation, information retrieval, multi-agent systems, psychology, multi-modal interaction, social robotics, AI & law and ethics of technology. The HI centre will create a national and international focus point for research on all aspects of HI systems, systems that combine human and machine intelligence, augment human intellect and capabilities instead of replacing them to achieve goals that are unreachable by either humans or machines alone.

- Hybrid Intelligence is an impactful and potentially highly beneficial new technology for academia and industries of the future.
- Hybrid Intelligence is a promising new way to address societal dilemmas related to the recent advances in Artificial Intelligence.
- The HI Center is a successful scientific collaboration producing high-quality (research) results in the area of Hybrid Intelligence.
- The HI Center is a leading national and international partner in the area of Hybrid Intelligence, and collaborating with the HI Center and its members will be beneficial for new partners and the field at large.

4.2 Common Ground

In order to align the communication of the participants for the purpose of the HI project, the common grounds of interest have to be established and openly stated. The common work is carried out with the following shared objectives:

to create hybrid intelligence, i.e., the combination of human and machine intelligence, takes human expertise and intentionality into account when making meaningful decisions and performing appropriate actions, together with ethical, legal and societal values.

Our goal is to design Hybrid Intelligent systems, an approach to Artificial Intelligence that puts humans at the centre, changing the course of the ongoing AI revolution.

The HI centre will create a national and international focus for research on all aspects of Hybrid Intelligent systems. By creating intelligent machines that interact with humans, we aim to give people new, intelligent artificial collaborators for joint reasoning to optimize decision-making and problem-solving. This interaction has the potential to amplify both human and machine intelligence by combining their complementary strengths. Hybrid Intelligence (HI) focuses on the assistive and collaborative role of Artificial Intelligence, emphasizing its potential to enhance human intelligence instead of replacing it.

Developing HI needs fundamentally new solutions to core research problems in AI: current AI technology surpasses humans in many pattern recognition and machine learning tasks, it falls short on general world knowledge, common sense reasoning, and human capabilities such as collaboration, adaptivity, responsibility and explainability (CARE). These challenges are being addressed at the Hybrid Intelligence Centre.

4.3 Key Messages

Hybrid intelligence: Augmenting Human Intellect

By providing intelligent artificial collaborators that interact with people we strengthen our human capacity for learning, reasoning, decision-making, and problem-solving. This interaction has the potential to amplify both human and machine intelligence by combining their complementary strengths. Hybrid Intelligence requires meaningful interaction between artificial intelligent agents and humans to negotiate and align goals, intentions, and implications of actions.

Our key statements therefore are:

- Augment Human intelligence with AI, don't replace human intelligence with AI
- Enhance human autonomy with hybrid intelligence, don't use AI to reduce their autonomy
- Enrich human experiences by augmenting their intelligence with AI, don't narrow/reduce their perspectives
- Enable humans to perform new activities by empowering them with hybrid intelligence, don't make humans redundant
- Strengthen democracies by fighting filter bubbles, fake news, and trolling with hybrid intelligence. Intervene with hybrid intelligence when AI threatens democracies
- Gain meaningful human control over AI by designing for hybrid intelligence instead of designing for autonomous AI

4.4 Target Groups: Who are they?

The purpose of external communication is to raise awareness of HI in its priority target groups, make them conscious of our message and gain their active support and involvement. Though some of these target groups are already aware of the project and some are also already actively involved, they all need to be informed about, convinced of HI’s aims, followed-up with critical information and continuously engaged in the collaboration.

It is essential to consider the role that the key stakeholders should play for the project to be successful and the likelihood that the stakeholders will actually play this role. The likelihood and impact of a stakeholders’ negative response to the project should be equally assessed.

4.5 Analysis

In our stakeholder analysis we identified which target groups there are, what their interest in the HI project are and how we can assess the impact of our project on that group. The result is presented in [Table 3](#). The types of external communication activities per stakeholder target group that over the years should come about are listed in [Table 4](#).

Table 3: Target groups and their interests in the HI project

Target groups	Interest in the HI project	Assessment of impact (how much they can influence the success of the project)
Industry	In complex process industries like (petro)chemical, transport and the retail sector, problem solving and system design will benefit from the support of and collaboration with HI systems. Industries of the future will require hybrid teams of robots, softbots and humans bringing their complementary skills to the task.	Uptake of the results, knowledge utilization
Applied scientists and technology developers	Immediate and valuable assets for further research in their value chains. Applied research or system development based on HI project results, research in which HI results are used. The evaluation and benchmark platforms delivered by HI will form a strong basis for future research as it defines the standard and state-of-the-art for system performance.	Uptake of the results, knowledge utilization, advancing state-of-the-art

Table 3: Target groups and their interests in the HI project

Target groups	Interest in the HI project	Assessment of impact (how much they can influence the success of the project)
Societal stakeholders and the general public	Consequences and opportunities of HI systems for society. Consumer organizations and the general public have an interest in ensuring that important societal, ethical and cultural values such as transparency, trust and explainability are realized in future HI systems.	Creating public support for investments in science and innovation in regarding Hybrid Intelligence. Attract students to the studies relevant to our program
Other initiatives similar to HI/ possible collaboration partners	Collaboration, competition, learning	share knowledge, share data etc.
Colleagues of the project participants	Curiosity regarding HI progress and achievements; learning experience and/or acquiring additional recognition (e.g. publications) by supporting the project.	Access to support from the colleagues (specialty/diversity). Increased output, quality and/or scientific recognition of the project (e.g. through scientific publications).
Government	Project progress, NWA Science agenda, Policy making	

Table 4: External Communication Activity Types per Stakeholder

Target Group	What information should they receive	Why should they receive this information	How should it be communicated?
All stakeholders	Project progress	General interest, obligation from NWO, outreach/information sharing	Annual report publication on the website
Possible collaboration partners	New findings Data- and software license		Scientific publications Presentations at conferences Data- and software-licensing
Colleagues of consortium participants	New findings, project progress	Providing support, dissemination results	Internal meetings within the research groups, scientific publications.
Industry	New findings, demonstrations of case studies	commercialisation and collaboration and joint activities	Industry outreach days, Industry labs (ICAI)

Table 4: External Communication Activity Types per Stakeholder

Target Group	What information should they receive	Why should they receive this information	How should it be communicated?
Societal stakeholders and general public			Articles in popular magazines and newspapers, presentations and interviews on radio and television and publication of messages and articles on the HI Centre website, social media tools (LinkedIn, Twitter) Interactive and adaptive chatbots
Applied Scientists and technology developers			Data- and software-licensing Interactive and adaptive chatbots
Government	Project progress (funding body NWO) Insights and knowledge for future research and policy making	Legal obligation Expert knowledge for policy making	Annual report Participation in National Science Agenda, top sector and NWO topic related discussions

5 Stakeholder communication activities

To promote the spread of knowledge to societal and economical stakeholders, the consortium adopted a communication plan which addresses publications, meetings, events, and other activities to interact with target groups of scientists, societal institutions, the general public, industry as well as other public and private organisations. Besides, the consortium is actively pursuing collaborations with parties that can support the spread of HI insights and results.

6 Scientists in related fields

The strategy for communication is as usual through

- publications in scientific journals and proceedings of conferences and workshops. See our [publications page](#),
- presentations at conferences and workshops. See our page on [keynotes and invited presentations](#).
- Releasing open source code and data, see our [Code and Data](#) page.

- Scientific workshops, tutorials (e.g., on Exploring Responsible AI by Design) and courses offered together with the national research school SIKS. See our [education](#) page.
- Through our personal networks, e.g., this is how the connections with Zwaartekrachtprogramme [Ethics of Socially Disruptive Technologies](#) (ESDiT) and [Humane AI Net](#) were created, and how we intend to set up collaborations with other national and international consortia.

7 General public

We actively reach out to the media to contribute or initiate a debate on HI related topics, and journalists successfully reach us to contribute to a topic in the media. Our [Media page](#) lists 28 contributions, including podcasts, interviews in national newspapers, articles in trade magazines and appearances on national television. An upcoming popularising science book on “AI as turbobooster” devotes an entire chapter to our programme.

8 Governmental institutions

Our researchers participate in sessions organised by the governmental institutions (e.g., we presented twice for committees of the the Upper House in Parliament). The researchers in the SIG Deliberation & Argumentation and the Challenge Systems Design in Context have ties with governmental institutions. They participate in ELSA labs (Ethical, Legal and Social Aspects of AI) that collaborate with municipalities which creates the opportunity to inform policy makers on the HI perspective on Artificial Intelligence. Hackathons are a further way of interacting with other institutions and industrial partners. Our first hackathon, [H3AI](#) at HHAI2022, was hosted by TNO, and sponsored by [Netwerk Mediawijsheid](#), by [Nieuws Checkers](#), and by [Nederlands Forensisch Instituut](#).

9 Industry

Industrial collaboration is primarily fostered through our case studies. Our collaboration with TNO is intended to connect us to other industrial partners. Similarly, the Robotic Surgery case study involves a company providing the software for interacting with the robotic arm. The intended close collaboration with TNO will allow HI researchers to anchor their research in industrial case studies, to increase the applicability of (parts of) our research. It will simplify co-organisation of further hackathons, create internship opportunities for HI researchers, and help to connect more industry partners to the HI Programme. We expect a strategic collaboration to be signed in Spring 2023. Moreover, we will investigate collaborations with the ICAI Labs in the recently funded ROBUST programme through our co-PI Prof. de Rijke, who is leading the [ROBUST](#) programme, and through members of our consortium, e.g. Dr. Frans Oliehoek as co-founders of the Mercury Machine Learning ICAI Lab with Booking.com.

Private & Public organisations in application domains: Through our individual researchers and through our collaboration with TNO we have strong ties with health care (hospitals, psychiatric care institutions, RIVM, helplines), incident management - search and rescue (police, fire departments, ambulance), education (elementary schools), and governmental organisations (municipalities, ministries, Juridisch Loket). Each of these domains of application provides a wealth of opportunities for (future) knowledge use and transfer, comparable to our initial case studies Health - Diabetes, Education and Robotic Surgery.

10 Communication Action Plan

The annual detailed Action Plan for Communication, includes the proposed actions to communicate the project outcomes to HI’s target audience and stakeholders. It is generated by the project management team, reviewed and approved by the Executive Board and adopts the responsibilities from the Communication Policy. The procedures are described in the [Project Manual](#). The budget for executing the Action Plan is discussed and allocated by the Executive Board.

The main objectives of the Communication Action Plan:

1. Designing and delivering external project communication that speaks to the target audience and stakeholders.
2. Define the processes for strong coordination of the communication actions.

These annual plans consist of planned internal and external communications.

10.1 Planned Internal Communication 2023

The internal communication activities comprise regular meetings and any communication across the internal communication channels. The scheduled meetings (Consortium meetings, Matrix Line meetings, Matrix Line leaders meetings, Executive Board meetings, Management Team meetings and PhD reading group meetings) and events will appear in the [HI meeting calendar](#).

The proposed planning of the internal regular meeting is summarized in [Table 5](#). Unforeseen or ad-hoc activities and opportunities are not included but can be added in line with the communication policy.

Table 5: Planned Internal Communication Activities of 2023

Medium	Audience	Responsible	Planned Timing	Message
Consortium meeting	Full consortium	Project Manager	3-4x/year	Exchange research progress and results, general direction and coherence of the research program
Research Line meeting Assistants & Trust	members	ML leader	4-6 weeks	Joint research activities, technical discussions, exchanges
Matrix Line meeting Systems Design in Context & User Literacy	members	ML leader	4-6 weeks	Joint research activities, technical discussions, exchanges

Table 5: Planned Internal Communication Activities of 2023

Medium	Audience	Responsible	Planned Timing	Message
Matrix Line meeting Collaboration & Synergy	members	ML leader	4-6 weeks	Joint research activities, technical discussions, exchanges
Matrix Line meeting SIG Reinforcement Learning	members	ML leader	4-6 weeks	Joint research activities, technical discussions, exchanges
Matrix Line meeting SIG Deliberation & Argumentation	members	ML leader	4-6 weeks	Joint research activities, technical discussions, exchanges
Matrix Line meeting Case Study Education	members	ML leader	bi-monthly	Joint research activities, technical discussions, exchanges
Matrix Line meeting Case Study Scientific Assistant	members	ML leader	bi-monthly	Joint research activities, technical discussions, exchanges
Matrix Line meeting Case Study Robotic Surgery	members	ML leader	bi-monthly	Joint research activities, technical discussions, exchanges
Matrix Line meeting Case Study Diabetics Support	members	ML leader	bi-monthly	Joint research activities, technical discussions, exchanges
Taskforce HIMII meeting	Taskforce members	MT Catholijn Jonker	bi-weekly, Wednesday at 13:00 - 15:00	Joint research activities, technical discussions, case studies and collaboration exchanges

Table 5: Planned Internal Communication Activities of 2023

Medium	Audience	Responsible	Planned Timing	Message
HI-ESDiT committee	committee members	Birna van Riemsdijk	bi-monthly, 1 hour	Joint research activities, technical discussions, case studies and collaboration exchanges
Executive Board meeting	Executive Board	Management Team	Monthly, every 1st Wednesday of the Month 14:00 - 15:00	Strategic decisions at consortium level
Management Team meeting	Management Team	Management Team	Weekly, Fridays 16:00 - 17:00	Operational decisions at consortium level
Management Team Strategy meeting	Management Team	Management Team	3 per year, full afternoon plus evening	Prepare Strategical decisions at consortium level

10.2 Planned External Communication Activities for 2023

The proposed planning of the activities for 2023 is summarized in [Table 6](#). The scheduled meetings and events are indicated in the [HI meeting calendar](#), the publications will be made available through the website ([HI publications](#)), and the presentations will be listed on the website as well ([HI presentations](#)).

Unforeseen or ad-hoc activities and opportunities are not included but can be added in line with the communication policy.

Table 6: Planned External Communication Activities of 2023

Medium	Audience	Responsible	Timing	Message
Scientific publications	Possible collaboration partners, other scientists and technology developers	Project members	Ongoing	New findings and insights
Scientific Presentations	Possible collaboration partners, other scientists, technology developers, and societal institutions	Project members	Ongoing	New findings and insights

Table 6: Planned External Communication Activities of 2023

Medium	Audience	Responsible	Timing	Message
Newsletter on the website	All stakeholders	April 2023	MT	New findings and insights
HHA1 International Conference	International Research Community	Management Team, Stefan Schlobach, HumaneAI Net ICT48	26-30 June, 2023	Hybrid Intelligence as a new paradigm for research into Artificial Intelligence, new insights
Newsletter on the website	All stakeholders	September 2023	MT	New findings and insights
Newsletter on the website	All stakeholders	December 2023	MT	New findings and insights
Establish connections with other research consortia, in particular with Zwaartekracht ALGOSOC, Zwaartekracht Stress in Action, the Wallenberg programme in Sweden, IMPACT	other scientists also from other disciplines	MT	Ongoing	We have shared interests in establishing a sustainable community
SIKS + HI course on Adaptive Hybrid Intelligence	audience: HI + SIKS PhD students	Rineke Verbrugge, Erman Acar & Herke van Hooff	20-21 September, 2023	Education