SIMCor

In-Silico testing and validation of Cardiovascular IMplantable devices

Call: H2020-SC1-DTH-2018-2020 (*Digital transformation in Health and Care*)

Topic: SC1-DTH-06-2020 (*Accelerating the uptake of computer simulations for testing medicines and medical devices*)

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Dissemination events

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13/06/2024	3.0	Anna Rizzo (LYN)	Updated and complete version, including integrations and revisions by all partners
21/06/2024	4.0	Thomas Czypionka (IHS), Janaki Raman (VPH)	Final revisions and integrations
26/06/2024	5.0	Anna Rizzo (LYN)	Final review and formal checking by LYN
26/06/2024	Final	Jan Brüning (CHA)	Submission by PC

Executive summary

The deliverable reports on the dissemination events (conferences, workshops, symposia, focus groups) attended by consortium partners or (co)organised by the consortium throughout the project and beyond. These include (1) academic and business conferences, workshops and symposia in cardiology, biomechanics, in-silico medicine, healthcare economics; (2) self- and co-organised workshops and meetings with sister projects in the field of in-silico medicine; (3) clinical focus groups with clinicians and patients; (4) working meetings with regulatory and notified bodies, to support and contribute to regulatory acceptance and standardisation efforts for modelling and simulation used in regulatory approval procedures of medical devices. The events are divided into the project reporting periods (M1-M18, M19-M36, M37-M42 and beyond) and include basic information on the event, the specific contribution of the consortium and means of event communication.

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Acronyms

Acronym	Full name
C&D	Communication and dissemination
BIO	Biotronik
CFD	Computational fluid dynamics
CHA	Charité – Universitätsmedizin Berlin
ECRIN	European Clinical Research Infrastructure Network
IHS	Institute for Advanced Studies
IIB	Institut für Implantat Technologie und Biomaterialien E.V.
LYN	Lynkeus Srl
PAPS	Pulomnay artery pressure sensor
PHI	Philips Electronics Netherlands B.V.
TAVI	Trascatheter aortic valve implantation
TAVR	Trascatheter aortic valve replacement
TUE	Eindhoven University of Technology
TUE	Graz University of Technology
UTBV	Universitatea Transilvania Din Brasov
UCL	University College London
VPH	Virtual Physiological Human Institute for Integrative Biomedical Research Vzw

Introduction

This deliverable is poised to report the **dissemination events conducted and attended in the course of the project and beyond by the SIMCor consortium partners**, as part of *T2.2 – Dissemination events (LYM, M1-M42)*, based on the *communication and dissemination* (C&D) strategy defined in *D2.1 – Communication and dissemination strategy plan (LYN, M6)*.

Together with *D2.3 - Communication channels and materials (LYN, M42)* and the regulatory feedback reports, i.e., *Regulatory feedback reports (1) (VPH, M19)* and *Regulatory feedback report (2) (VPH, M40)*, the deliverable is meant to report the engagement, communication and dissemination activity conducted throughout the project.

The dissemination events attended and organised in the project encompass the following categories:

- **Academic and business conferences, workshops and symposia**, mostly in the field of cardiology, biomechanics, and in-silico medicine, but also healthcare economics, where partners have presented results via talks and posters;
- **Self- and co-organised workshops and meetings** with sister projects in the field of in-silico medicine;
- **Clinical focus groups** with clinicians and patients;
- **Working meetings** with regulatory and notified bodies, to support and contribute to regulatory acceptance and standardisation efforts for modelling and simulation used in regulatory approval procedures of medical devices.

The deliverable will thus report all the events conducted, attended and planned in the project, divided among the sections:

- **First reporting period (M1-M18)**, reporting events from 1 January 2021 to 30 June 2022;
- **Second reporting period (M19-M36)**, reporting events from 1 July 2022 to 30 December 2023;
- **Third reporting period (M37-M42)**, reporting events from 1 January to 30 June 2024;
- **Beyond SIMCor**, reporting events additional events planned after the end of the project, and future directions for research collaboration, standardisation efforts and regulatory synergies.

The events will be described according to the fields below:

- **Title**: full name of the event
- **Date**: date of the event;
- **Place:** city and country, if onsite, or else online;
- **Type**: type of event, e.g., conferences, workshops, symposia, webinars, science communication events, project meetings, focus groups;
- **Organiser**: institution, research consortium, or consortium partner(s) organising the event;
- **Co-organised**: whether the consortium had an active role in the organisation of the event or parts of it;
- **Participants**: consortium partners attending the event;
- **Topic**: research field or main topic of the event;
- **Description**: a short description of the event.
- **Talks**: talks or posters through which the consortium has disseminated its results;
- **Dissemination**: how the event has been disseminated by the consortium (not the main organiser).

First reporting period (M1-M18)

The **first reporting period (1 January 2021 – June 2022)** was characterised by a preliminary outreach activity of the consortium towards the in-silico research community. The coordinator and other consortium partners started presenting **the project rationale, objectives and methodology** within **internal academic events** (e.g., poster sessions), and **networking events** (e.g., e-workshops) with other sister consortia, focussing on common challenges, or the wider research community. Although project results were just starting to be produced, some initial presentations were conducted at relevant biomedical and in-silico medicine conferences.

(1) VPH day

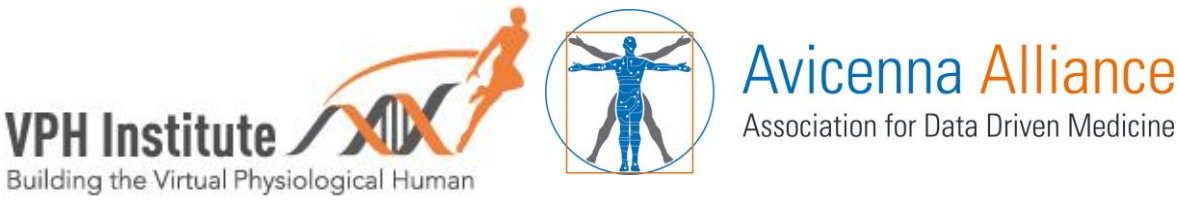

Figure 1: Logo of the Virtual Physiological Human (VPH) Institute and the Avicenna Alliance for Data Driven Medicine.

Title	**VPH day webinar**				
Date	25 January 2021	**Place**	Online	**Type**	Webinar
Organiser	VPH			**Co-organised**	Y
Participants	VPH, UCL				
Topic	VPH and the Avicenna Alliance: working groups and common activities				
Description	In-silico medicine has made significant progress over the last years. Scientifically, there is an increasing number of studies where in-silico technologies are becoming important to reach new biological insights or allow the translation to (pre)clinical studies. VPH is playing an active role in steering the activities that will make in silico medicine a standard practice in health care. Together with Avicenna Alliance, the VPH team organised this 2-hour online event that brought together members of pharma, biotech and medtech actors, alongside stakeholders from regulators and academics, active in the domain of in-silico medicine. As an extension of the bi-annual VPH Conference, the VPH day was conceptualised as community engagement, to mutually engage with key stakeholders. It also marked the start of the 3 in-silico medicine H2020 projects (SCT-DTH-06-2020) where the VPH is involved, including SIMCor, InSilicoWorld and SimCardioTest. Overall, the webinar presented the activity plan for the new year and all the initiatives and benefits the in-silico community can participate in.				
Talks	Liesbet Geris (VPH) presented the goal and activities of the VPH, including SIMCor, while Claudio Capelli (UCL) presented the key perspectives surrounding the engagement with clinicians.				
Dissemination	VPHI website				

(2) Triple helix expertise exchange workshop

Figure 2: Triple helix expertise exchange workshop banner.

Title	**Triple helix expertise exchange workshop on modeling drug-device interaction**				
Date	30 April 2021	**Place**	Online	**Type**	Workshop
Organiser	VPH			**Co-organised**	Y
Participants	VPH				
Topic	In-silico modelling of drug-device combinations				
Description	The workshop "Triple helix expertise exchange workshop on modeling drug-device interaction" (Friday 30 April 2021, 15:00 - 17:00 CEST) was organised and promoted by the VPH and focused on in-silico models of drug-device combinations. In this context, speakers from academia and industry presented the work they are doing in this space, while regulators presented the regulatory perspective on the evaluation of drug-device combinations and the open questions related to the credibility establishment of in-silico models. At the end of the workshop, a discussion between the presenters and participants addressed these questions and identified additional challenges.				
Talks	-				
Dissemination	SIMCor website, VPH website				

(3) BMT 2021

Figure 3. BMT 2021 conference banner.

Title	**55th Annual Conference of the German Society for Biomedical Engineering**				
Date	5-7 October 2021	**Place**	Hannover, Germany	**Type**	Conference
Organiser	German Society for Biomedical Engineering			**Co-organised**	-
Participants	IIB				
Topic	Biomedical engineering				
Description	The conference focused on the challenges, tasks and potentials of medical technology today, including basic research, applied research, clinical research and medical applications, including the challenges and advances in biomedical engineering in Germany, Europe and worldwide.				
Talks	• Finja Borowski (IIB), *"Quantification of noncircular stent expansion after TAVR into a pathological annulus and its impact on paravalvular leakage"*; • Jan Oldenburg (IIB), *"Contributions towards Data driven Deep Learning methods to predict Steady State Fluid Flow in mechanical Heart Valves"*; • Michael Stiehm (IIB), *"Applicability Analysis of CFD for Evaluating the Thrombogenic Potential of Stent"*.				
Dissemination	-				

(4) Statistical environment for in-silico trials

Figure 4: ECRIN logo.

Title	**Statistical environment for in-silico trials**				
Date	6 December 2021	**Place**	Online	**Type**	Workshop
Organiser	ECRIN			**Co-organised**	Y
Participants	CHA, LYN, ECRIN				
Topic	R-statistical analysis environments for in-silico-trials				
Description	The e-workshop brought together experts from in-silico research as well as experienced biostatisticians, data managers and data scientists to discuss and specify the requirements for the implementation of an R-statistical analysis environment for planning and managing in-silico-trials and to explore implementation strategies, along with open issues, options and hurdles to overcome. The e-meeting also leveraged the participation of in-silico experts of the other H2020 in-silico trial projects, namely the InSilicoWorld, SimInSitu, and SimCardioTest consortia.				
Talks	-				
Dissemination	SIMCor website				

(5) 2022 AI4HEALTH Winter School

Figure 5: 2022 AI4HEALTH Winter School banner.

Title	**2022 AI4HEALTH Winter School**				
Date	10-14 January 2022	**Place**	Online	**Type**	Workshop
Organiser	French Health Data Hub, MIAI Grenoble, 3IA Cote d'Azur and PRAIRIE			**Co-organised**	-
Participants	ECRIN				
Topic	Data science application in healthcare				
Description	The Winter School program covered the latest advances in the field of data science applied to health, including plenary lectures (10-12 January) by international experts accompanied by 2 days of hands-on practical sessions (13-14 January). The school was aimed at students (final year masters, PhD), post-docs, academics, members of public institutions, and professionals.				
Talks	Christian Ohmann (ECRIN), formerly Head of the Clinical Trial Coordination Center (KKS) at the Medical Faculty of the Heinrich Heine University in Düsseldorf, took part in the roundtable (12/01, 17:15 - 18:15 CET) *"Data-driven approaches in healthcare and precision medicine: challenges & opportunities"* with personalities from academia, industry and public institutions.				
Dissemination	SIMCor website				

(6) SimCardioTest workshop

Figure 6: SimCardioTest Workshop banner.

Title	**SimCardioTest workshop: verification & validation of in-silico models**				
Date	8 February 2022	**Place**	Online	**Type**	Workshop
Organiser	SimCardioTest consortium			**Co-organised**	Y
Participants	CHA, LYN, VPH				
Topic	Verification and validation for in-silico models				
Description	To discuss verification and validation processes for in-silico models, SimCardioTest (Maxime Sermesant and Michèle Barbier, Inria; Valerie Centis, Microport) organised this workshop with the participation of other EU-funded projects.				
Talks	Within *"Verification & validation processes in other EU H2020 projects"* session (Moderator: Liesbet Geris, VPH), Jan Brüning (CHA) presented the project within the talk *"SIMCor: validation strategy for in-silico testing of medical devices based on virtual cohorts"*.				
Dissemination	SIMCor website				

(7) e/MTIC poster event

Figure 7: TUE logo.

Title	**e/MTIC poster event**				
Date	29 March 2022	**Place**	Eindhoven, Netherlands	**Type**	Poster event
Organiser	TUE			**Co-organised**	Y
Participants	TUE				
Topic	Cardiovascular medicine				
Description	This is the yearly recurring Poster event of the Eindhoven MedTech Innovation Center (e/MTIC). The goal of e/MTIC is to create and expand an ecosystem that strongly increases the speed of high-tech health innovation, maximising value for patients. We consider such an ecosystem to be an unmet need and a unique opportunity for the Brainport region to make significant contributions to visionary new developments in healthcare. e/MTIC is a large-scale research collaboration between the Catharina Hospital (CH), the Maxima Medical Center (MMC), Kempenhaeghe Epilepsy and Sleep Center (KH), Eindhoven University of Technology (TU/e) and Royal Philips Eindhoven (RPE) in the domains cardiovascular medicine, perinatal medicine and sleep medicine. The partnership has evolved over several decades, has a strong scientific and valorization track record and currently encompasses around 100 PhD students, supervised by a similar number of experts from the various partners.				
Talks	• Sabine Verstraeten (TUE) presented a poster entitled *"Virtual cohort generation and validation for in-silico testing of transcatheter aortic valve implantation (TAVI)"*. • Hamed Moradi (TUE) presented a poster entitled *"Development and validation of a virtual cohort generator for heart failure patients"*.				
Dissemination	-				

(8) BME research day

Figure 8: TUE logo.

Title	**BME research day**				
Date	30 May 2022	**Place**	Eindhoven, Netherlands	**Type**	Workshop
Organiser	TUE			**Co-organised**	Y
Participants	TUE				
Topic	Biomedical engineering				
Description	BME research day is a yearly recurring event organised by the Department of Biomedical Engineering of TUE and includes the following: • A presentation of a top notch, invited, keynote speaker; • Information on BmE within our department and reaching out towards companies and hospitals; • Presentations from PhD's/PDs from different clusters of the BmE department; • Poster sessions during lunch and the Poster award session; • BmE prizes for best BSc, MSc and PhD theses.				
Talks	• Sabine Verstraeten (TUE) presented a poster entitled *"Virtual cohort generation and validation for in silico testing of transcatheter aortic valve implantation (TAVI)"* • Hamed Moradi (TUE) presented a poster entitled *"A model of heart failure patients for in-silico cohort generation"*				
Dissemination	SIMCor website				

Second reporting period (M19-M36)

The **second reporting period (1 July 2022 – 31 December 2023)** was characterised by the **emergence of project results**, which could be widely disseminated through a variety of **conferences, workshops and symposia** in the field of in-silico medicine, biomechanics and bioengineering, but also healthcare economics. Also, in this phase, the **research and dissemination collaboration with the in-silico sister projects** became more intense and fruitful, leading to the organisation of the INNOVAHEART workshop and the namesake project research group.

(9) *Lange Nacht der Wissenschaften 2022*

Figure 9: LNDW event banner.

Title	***Lange Nacht der Wissenschaften 2022***				
Date	2 July 2022	**Place**	Berlin, Germany	**Type**	Science communication event
Organiser	Joint initiative by universities and research institutions in Berlin.			**Co-organised**	N
Participants	CHA				
Topic	Science communication event for the general public.				
Description	The "*Lange Nacht der Wissenschaften*" (Long Night of Sciences) in Berlin is an annual event where numerous scientific institutions, including universities and research centres, open their doors to the public. Held typically in June, it offers a variety of interactive exhibits, experiments, lectures, and tours to showcase scientific research and innovation, making science accessible and engaging for people of all ages.				
Talks	Jan Brüning and Leonid Goubergrits (CHA) presented the project in general as well as featuring exemplary results.				
Dissemination	X				

(10) GALA 2022

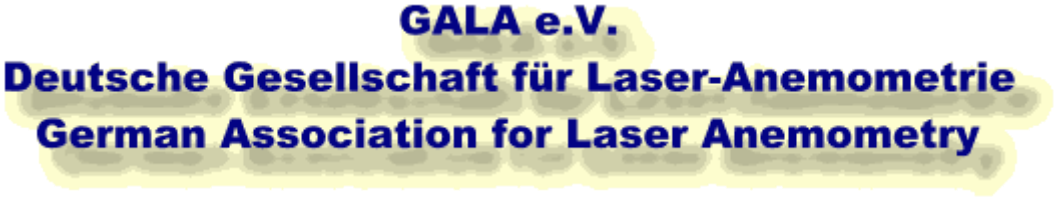

Figure 10: GALA 2022 banner.

Title	**Annual Congress of the German Association for Laser Anemometry**				
Date	6-8 September 2022	**Place**	Ilmenau, Germany	**Type**	Conference
Organiser	German Association for Laser Anemometry; Institute of Thermo – and Fluid Dynamics, TU Ilmenau, Department of Mechanical Engineering			**Co-organised**	-
Participants	IIB				
Topic	Measurement methods in fluid mechanics				
Description	The conference focused on the diverse state of development and the wide application potential of the measurement methods in fluid mechanics, with special consideration of laser-optical, acoustic and electromagnetic methods. The talks encompassed the current state of development and trends in the further development of these non-contact flow measurement techniques, and of research projects being processed with these and other current methods in Germany and neighbouring countries.				
Talks	• Jan Oldenburg (IIB), *"Measurement of steady flow through a transcatheter aortic valve replacement by means of particle image velocimetry"*; • Finja Borowski (IIB), *"Investigation of the hemodynamic properties of transcatheter aortic valve pros-theses depending on degrees of degradation of the aortic valve leaflets"*.				
Dissemination	SIMCor website				

(11) VPH 2022

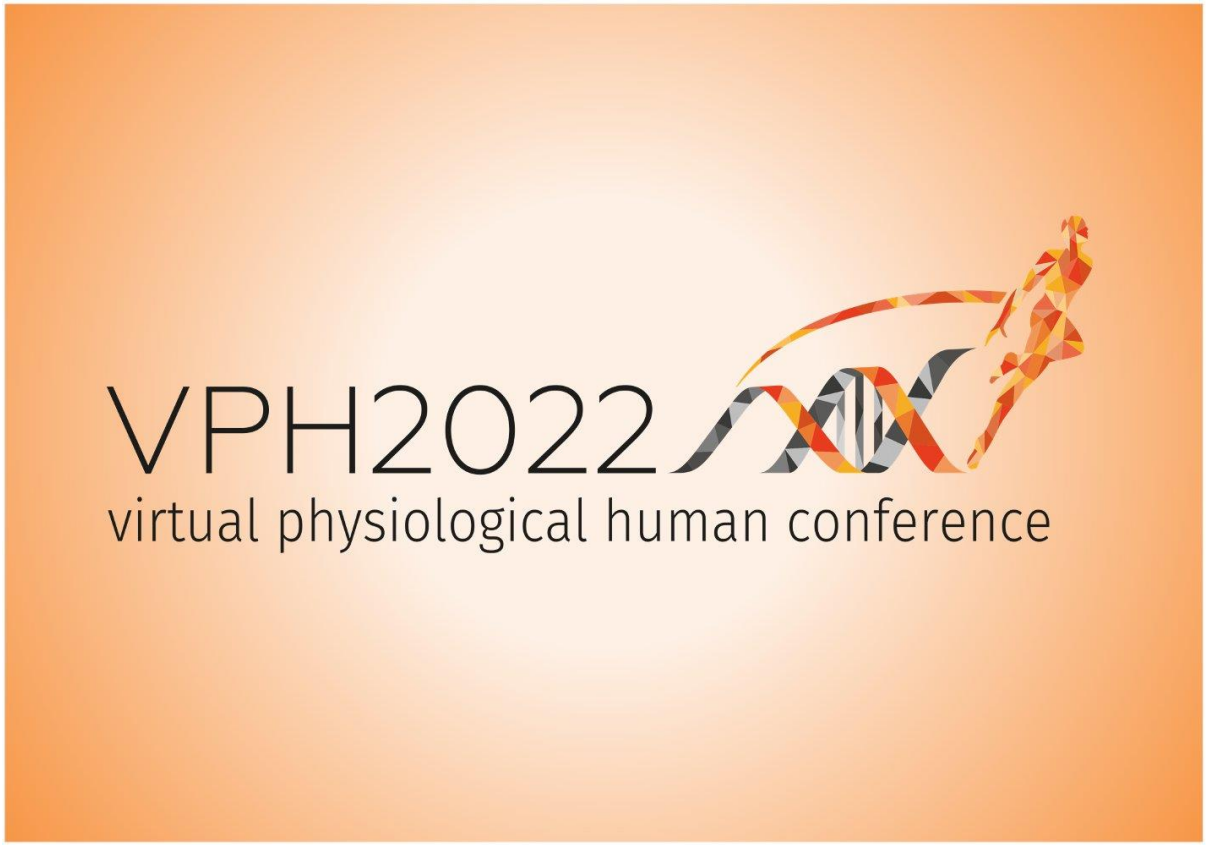

Figure 11: VPH2022 Conference banner.

Title	**Virtual Physiological Human 2022 Conference**				
Date	6-9 September 2022	**Place**	Porto, Portugal	**Type**	Conference
Organiser	VPH, Faculty of Engineering of the University of Porto			**Co-organised**	Y
Participants	CHA, LYN, TUE, UCL, VPH				
Topic	Digital twins for personalized treatment development and clinical trials				
Description	VPH is the biannual conference dedicated to the advancement of in-silico medicine in all fields of application, including skeletal muscle structure modelling, cardiovascular modelling, neural engineering, neural engineering, cell and soft tissue engineering, image-based analysis, regulations and in-silico trials.				
Talks	Talks • Jan Bruning (CHA), *"Validation of a synthetic cohort of aortic stenosis patients"*. In Session 5 – Computational tools and simulation in biomechanics 1 (Wednesday 7 September, 14:15 – 15:45 CEST). • Sabine Verstraeten (TUE), *"Non-parametric statistical shape modelling for in silico trials of TAVI"*. In: Session 13 – Cardiovascular 2 (Thursday 8 September, 08:30 – 10:30 CEST).				

	• Raphaelle Lesage (VPH), *"Computer modelling and simulation in clinics: mapping usage and opinions for advancing in-silico medicine*." In: Session 19 – In silico clinical trials 2 – Thursday 8 September, 13:45 – 15:00 CEST). Posters • Sabine Verstraeten (TUE), "*Identification of the most influencial factors on pulmonary artery hemodynamics using variance-based sensitivity analysis"*; • Pjiotr L. J. Hilhorst (TUE), "*Surrogate model-based sensitivity analysis of a one-dimensional arterial pulse wave propagation model with correlated input"* (joint effort between SIMCor and InSilicoWorld). Workshop • Raphaelle Lesage (VPH), Pre-conference workshop "*Public and patient outreach and engagement for in silico medicine"* (Tuesday 6 September, 14:00 – 17:00 CEST), (VPH in collaboration with the Avicenna-Alliance Public-Patient Involvement (PPI) task force. Networking session • Informal networking session with the other in-silico projects of the SC1-DTH-06-2020 (Accelerating the uptake of computer simulations for testing medicines and medical devices) Topic (i.e., In Silico World, SimCardioTest, SimInSitu) for the organisation of INNOVAHEART, and shared an 'in-silico projects' exhibition booth sponsored by the VPH Institute.
Dissemination	Project website, X

Figure 12: Banner of the pre-conference workshop "Public and patient outreach and engagement for in silico medicine" organised by the VPH in collaboration with the Avicenna-Alliance PPI task force.

(12) Lange Symposium 2022

Figure 13: Logo of the German Heart Centre of the CHA.

Title	Lange Symposium 2022				
Date	17-18 September 2022	**Place**	Berlin, Germany	**Type**	Symposium
Organiser	CHA			**Co-organised**	Y
Participants	CHA				
Topic	Cardiology and cardiac surgery				
Description	The Lange Symposium is an annual event that gathers experts, researchers, and practitioners from various fields to discuss and present the latest advancements and research findings focussing. The symposium, organised by the German Heart Center Berlin, typically includes keynote presentations, abstract sessions and panel discussions, fostering interdisciplinary collaboration and knowledge exchange.				
Talks	Titus Kühne (CHA), *"In silico development and testing of aortic valves"*.				
Dissemination	-				

(13) VCBM 2022

Figure 14: VCBM 2022 banner.

Title	**12th Eurographics Workshop on Visual Computing for Biology and Medicine**				
Date	22-23 September 2022	**Place**	Vienna, Austria	**Type**	Workshop
Organiser	Technical University Vienna; University Vienna			**Co-organised**	-
Participants	CHA				
Topic	Computer science, medical image processing				
Description	The Eurographics Workshop on Visual Computing for Biology and Medicine is an annual conference that focuses on the application of visual computing techniques in biology and medicine. It brings together researchers, practitioners, and professionals to discuss recent advancements, challenges, and future directions in the field. The workshop features presentations, technical sessions, and interactive discussions on topics such as medical imaging, bioinformatics, visualisation, and computational biology, promoting interdisciplinary collaboration and innovation.				
Talks	Nina Krüger (CHA), *"Image processing for implantable device development and treatment support"*.				
Dissemination	-				

(14) BMT 2022

Figure 15: BMT 2022 banner.

Title	**Joint Annual Conference of the Austrian, German and Swiss Societies for Biomedical Engineering (*Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik*) 2022**				
Date	28-30 September 2022	**Place**	Innsbruck, Austria	**Type**	Conference
Organiser	Institute of Electrical and Biomedical IT Engineering of UM – Private University for Health Sciences, Medical Informatics and Technology; Austrian Society for Biomedical Engineering (ÖGBMT).			**Co-organised**	-
Participants	IIB				
Topic	Biomedical engineering				
Description	BMT 2022 covered a broad range of topics in basic research, applied research, clinical research and medical applications. In addition to current trends in the field such as precision medicine, digital health, artificial intelligence, wearables, nanotechnology and additive manufacturing, the conference also focused on established topics such as imaging techniques, image and signal analysis, modeling and simulation, biomaterials, implants and robotics. The scientific meeting will be accompanied by an industrial and technical exhibition. BMT 2022 has been conceived as a forum for an intensive exchange between researchers, developers, manufacturers and users (clinical doctors, practitioners, patients) of medical technologies.				
Talks	• Wed 28 Sept (09:30 – 09:43): Michael Stiehm, Finja Borowski, Jan Oldenburg, Alper Öner, Klaus-Peter Schmitz (IIB), *"Recommendations for the Development of CFD Model to Assess the Thrombogenic Potential of Stents"*, reporting on the work carried out in WP4 for the development of a systematic step-by-step structured guideline for the application of numerical flow simulation (i.e., *computational fluid dynamics*, CFD) for the development of novel cardiovascular implants, building on top of the NASA documentation and ASME V&V40-2018.				

	● Wed 28 Sept (17:30 – 17:45): Finja Borowski, Robert Ott, Jan Oldenburg, Sebastian Kaule, Alper Öner, Klaus-Peter Schmitz, Michael Stiehm (IIB), *"Validation of a Fluid Structure Interaction Model for TAVR using Particle Image Velocimetry"*, focusing on the development of a fluid-structure interaction (FSI) model for transcatheter aortic valve replacement (TAVR) device optimization, through simulation of leaflet kinematics and flow based on the velocity field and identification of pro-thrombotic regions. ● Fri 30 Sept (09:59 – 10:17): Jan Oldenburg, Finja Borowski, Michael Stiehm, Klaus-Peter Schmitz (IIB), *"Computation of flow through TAVI device by means of physics-informed neural networks"*, showing the usage of physics-informed neural networks (PINNs) for predicting fluid flow through a transcatheter aortic valve implant (TAVI) device, that has been validated through CFD simulations that solved the Navier-Stokes equations by means of finite volume methods.
Dissemination	SIMCor website

(15) Simuliere Mensche Symposium

Figure 16: Simulierte Mensch Symposium poster.

Title	**Simulierte Mensch Symposium**				
Date	24 November 2022	**Place**	Berlin, Germany	**Type**	Symposium
Organiser	Der Simulierte Mensch, CHA, TU Berlin			**Co-organised**	Y
Participants	CHA				
Topic	In-vitro and in-silico simulation of human physiology and pathophysiology.				
Description	The Si-M Symposium co-organised by TU Berlin and Charité was dedicated to advancing diagnostics and therapeutics by enhancing our understanding of human physiology and pathophysiology through innovative models and processes. It highlighted the latest research and analytical methods, avoiding animal experimentation, and features cooperation among researchers, leveraging cutting-edge technologies and outstanding infrastructure.				
Talks	Jan Bruning (CHA), *"Cardiovascular Modelling: In-Silico testing and validation of Cardiovascular Implantable devices (SIMCor)"*.				
Dissemination	-				

(16) ATHEA Conference 2023

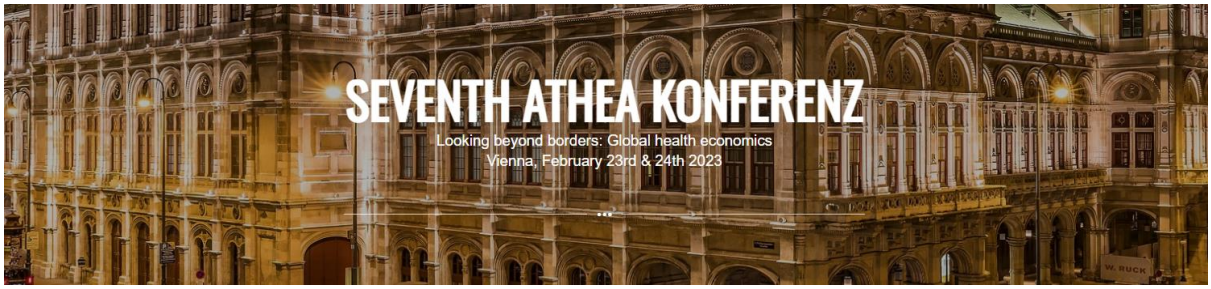

Figure 17: Banner or the ATHEA Conference 2023.

Title	7th Austrian Health Economics Association Conference				
Date	23-24 February 2023	**Place**	Vienna, Austria	**Type**	Conference
Organiser	Austrian Health Economics Association, IHS			**Co-organised**	Y
Participants	IHS				
Topic	Looking beyond borders: Global health economics				
Description	In most European countries with their highly developed healthcare systems and ageing populations, communicable diseases were of little concern for public health, authorities and researchers compared to their non-communicable counterparts. This changed with the COVID-19 pandemic, which had an impact on societies and health systems worldwide and demonstrated most vividly that health systems do not exist independently of each other. The conference aimed to have a look beyond the borders of Europe and see what health economics can contribute to these countries.				
Talks	Siegfried Eisenberg (IHS), *"A conceptual framework to evaluate the socioeconomic impact of in-silico models for implantable medical devices"*.				
Dissemination	-				

(17) INNOVAHEART

Figure 18: INNOVAHEART banner.

Title	**INNOVAHEART: a joint European workshop on the digital heart**				
Date	22 March 2023	**Place**	Bordeaux, France	**Type**	Workshop
Organiser	SimCardioTest, SIMCor, SimInSitu, EDITH, InEurHeart consortia			**Co-organised**	Y
Participants	CHA, LYN, BIO, ECRIN, UCL, TUE, VPH				
Topic	Cardiovascular modelling				
Description	The INNOVAHEART one-day workshop on the digital heart gathered the European scientific community, start-ups, SMEs and industrial companies working in the field of cardiovascular modelling. The workshop was co-organised by the EU-funded projects SimCardioTest, SimInSitu, EDITH, inEurHeart and SIMCor, with the support of EIT Health, a knowledge and innovation community of the European Institute of Innovation and Technology (EIT), co-funded by the European Union. The workshop was a combination of lectures, roundtables and live demonstrations, with opportunities for knowledge exchange and discussion on the state of the art, exploitation and regulatory approval perspectives, contributing to the creation of an e-health ecosystem dedicated to cardiovascular diseases and the well-being of the heart. The participation was open upon a registration fee to all stakeholders in the field, including cardiologists, biomedical engineers, researchers from academia, SMEs and industry, and regulatory bodies.				
Talks	• Wouter Huberts (TUE), *"Virtual cohort generation and multi-level validation for in-silico trials";* • Wouter Huberts (TUE), *"A clinically driven filtering approach for generation of virtual cohorts of aortic stenosis patients";* • Cécile F. Rousseau (VPH), "Regulatory bodies, medical devices, and in-silico trials".				
Dissemination	SIMCor website, X, LinkedIn				

(18) Praevenire Digital Health Symposium

Figure 19: Banner of the PRAEVENIRE Digital Health Symposium.

Title	**Praevenire Digital Health Symposium**				
Date	20-21 April 2023	**Place**	Vienna, Austria	**Type**	Conference
Organiser	PRAEVENIRE, Bern University of Applied Sciences			**Co-organised**	-
Participants	IHS				
Topic	Digital health and healthcare policy				
Description	In this conference, experts present the current state of knowledge on current topics in digital health. After these presentations, the players in the healthcare system and innovation drivers come together to discuss future-oriented approaches to a sustainable healthcare system. What is special about the PRAEVENIRE Digital Health Symposium is the multifaceted approach to each topic.				
Talks	Thomas Czypionka, Siegfried Eisenberg, Markus Kraus, Miriam Reiss, David Rösler (IHS), *"Socioeconomic impact of in-silico models for the development of implantable medical devices"*.				
Dissemination	-				

(19) CMBBE 2023

Figure 20: CMBBE Symposium banner.

Title	**8th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering**				
Date	3-5 May 2023	**Place**	Paris, France	**Type**	Conference
Organisers	École Nationale Supérieure d'Arts et Métiers – ParisTech, VPH, Cardiff University, Siocieté de Biomecanique			**Co-organised**	Y
Participants	CHA, BIO, TUE				
Topic	Challenges in computational biomechanics for tomorrow's healthcare systems				
Description	The CMBBE symposia offer a platform for networking and sharing cutting-edge research and projects related to computer methods in biomechanics and biomedical engineering and have become a global benchmark in the field.				
Talks	Within the symposium programme, the special sessions are a traditional element which focuses on new emerging research areas and developments in the field. Among those, some sessions relevant to the SIMCor core topics were, e.g., *"Multiscale mechanics and mechanobiology for tomorrow's cardiovascular medicine", "Verification and validation of computational models", "Biomechanics of the cardiovascular system: modelling, simulation and imaging"*, as below. Talks ● On 4 May, 9:00 – 10:30 am, *"Clinical biomechanics and translational research IV"* session, Wouter Huberts (TUE), *"A model of heart failure patients for the generation of an in-silico cohort"*; ● On 4 May, 5:00 pm – 6:30 pm, "*Methods in Mechanics for Biology and Medicine III"* session, Pavlo Yevtushenko (CHA), *"Computing transvalvular pressure gradient using deep-learning from segmented image data"*; ● On 5 May, 10:00 am – 10:15 am, "*Clinical Biomechanics and Translational Research V"* session, Axel Seeger (BIO), "*Design and testing an implantable sensor with in-silico techniques"*. Poster sessions				

	● Poster session A (Clinical biomechanics and translational research), 3 May, 1:10 pm – 2:10 pm, Sabine Verstraeten (TUE), "*Virtual cohort generation for in silico trials of transcatheter aortic valve implantation*". ● Poster session B (Image analysis and processing methods for biology and medicine), Jan Brüning (CHA), "*Comparison of the morphology and hemodynamics of the human, porcine, and ovine pulmonary artery*".
Dissemination	SIMCor website, X

(20) WCPH

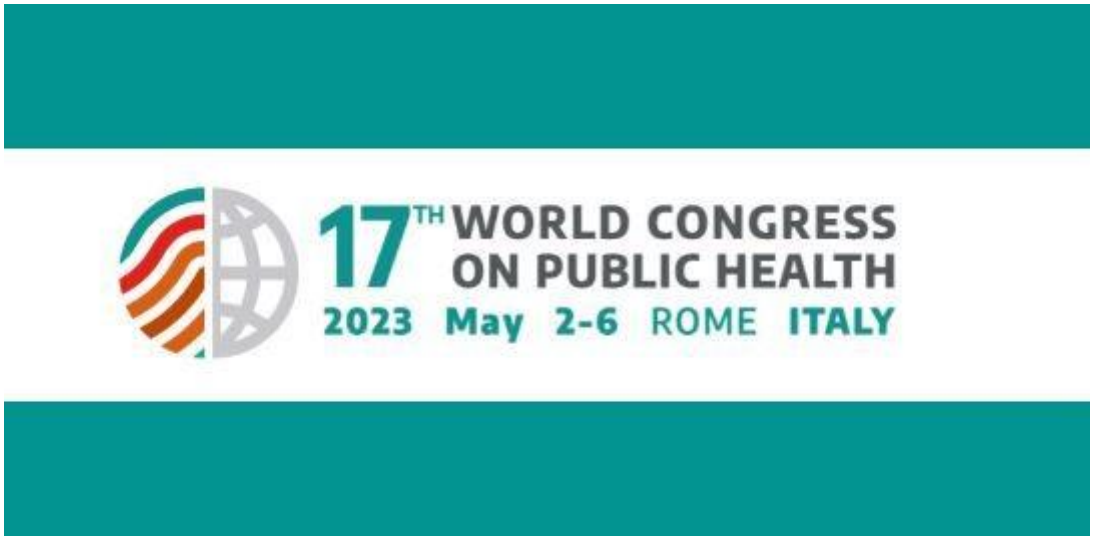

Figure 21: WCPH 2023 banner.

Title	17th World Congress on Public Health				
Date	3 - 6 May 2023	**Place**	Rome, Italy	**Type**	Congress
Organiser	World Federation of Public Health Associations (WFPHA), Italian Society of Hygiene, Preventive Medicine and Public Health (SItI), Association of Schools of Public Health in the European Region (ASPHER).			**Co-organised**	N
Participants	IHS				
Topic	A World in Turmoil: Opportunities to Focus on the Public's Health				
Description	In May 2023, over 3,000 public health professionals and researchers, policymakers, and students convened in Rome, Italy, for the 17th World Congress on Public Health (WCPH), a momentous event organized by the World Federation of Public Health Associations (WFPHA) in association with the Italian Society of Hygiene, Preventive Medicine and Public Health (SItI) and the Association of Schools of Public Health in the European Region (ASPHER). The theme of the Congress — A World in Turmoil: Opportunities to Focus on the Public's Health — reflected our commitment, as the global health community, to work together in and outside of our respective fields to promote health equity and to build a more sustainable and just future.				
Talks	Siegfried Eisenberg (IHS), *"A conceptual framework to evaluate the socioeconomic impact of in-silico models for implantable medical devices".*				
Dissemination	-				

(21) I FOCUS GROUP

Figure 22: Great Ormond Street Hospital. Photo credits: David Hawgood (CC BY-SA 2.0).

Title	**I focus group on in-silico medicine**				
Date	22 May 2023	**Place**	London, United Kingdom	**Type**	Focus group
Organiser	UCL, VPH, LYN, CHA, IHS			**Co-organised**	Y
Participants	UCL, VPH, LYN, CHA				
Topic	Modelling and simulation in cardiology: potential and limitations				
Description	The SIMCor focus groups have been conceived as multi-stakeholder discussion forums where to explore the clinical, scientific, legal and ethical aspects of in-silico trials, and more specifically the use of computer-based simulation for the testing, validation and regulatory approval of medical devices in cardiology, as well as for clinical decision support, at the presence of researchers, healthcare professionals and patients. The SIMCor focus groups on in-silico medicine, have been organised as a joint effort of an interdisciplinary team including in-silico medicine researchers, sociologists, researchers in economics and science communication experts from our partners Charité – Universitätsmedizin Berlin (CHA), University College London (UCL), the Virtual Physiological Human (VPH) Institute, the Institute for Advanced Studies Vienna (IHS) and Lynkeus (LYN), leveraging the partners' experience on patient focus groups, also in the context of sister in-silico medicine projects (InSilicoWorld). These focus groups, to be further sustained by surveys and one-to-one interviews, have been designed not only as a means of addressing cardiologic patients' and citizens' questions, issues and concerns, but also to gain fundamental insights for the healthcare and socioeconomic impact assessment of in-silico testing technologies and, on a broader scale, towards the development of more ethical and user-driven virtual twin technologies.				

Talks	● SIMCor focus group methodology and scope + Q&A: focus group methodology, structure and agenda, plus a brief introduction of participants. ● In-silico medicine and SIMCor as a use-case application of in-silico cardiology – an introduction + Q&A: introduction to the medical device approval process, in-silico methods for medical device testing and potential implications ● Open discussion of in-silico cardiology: first impressions and considerations on the topics above. ● Targeted discussion: use-case scenarios: discussion of specific scenarios of testing and regulatory approval of medical devices on the cardiovascular domain.
Dissemination	SIMCor website, X

(22) EHMA 2023

Figure 23: EHMA 2023 banner.

Title	**EHMA 2023 Annual Conference**				
Date	5-7 June 2023	**Place**	Rome, Italy	**Type**	Conference
Organiser	European Health Management Association (EHMA), ALTEMS – Graduate School of Health Economics and Management, Università Cattolica del Sacro Cuore.			**Co-organised**	-
Participants	IHS				
Topic	Health management: sustainable solutions for complex systems				
Description	The EHMA 2023 Annual Conference *"Health management: sustainable solutions for complex systems"* brought together 400 representatives from the healthcare ecosystem to discuss sustainable solutions to drive the transformation of health systems in the face of unprecedented challenges posed by the digital revolution, climate change, and other threats to their resilience and sustainability. The conference was structured around 5 tracks that reflected the holistic practice of health management and framed the lenses through which contemporary topics could be analysed and discussed. These included *(1) Governance, leadership and social responsibility; (2) Management, Operations and Practice; (3) Human capital, professionalism and people management; (4) Finance and Economics; (5) Policy and Regulations*. In turn, additional topics within those tracks included *People-centred systems, Health technology and digital transformation, Workforce of the future, Sustainable and resilient health systems, Healthcare access, delivery and outcomes*.				
Talks	Thomas Czypionka, Siegfried Eisenberg, Markus Kraus, Miriam Reiss, David Rösler (IHS), *"A conceptual framework to evaluate the socioeconomic impact of in-silico models for implantable medical devices".* Abstract book.				
Dissemination	-				

(23) A Manifesto for the promotion of M&S in France

Figure 24: Manifesto for the promotion of M&S in France event banner.

Title	**A Manifesto for the promotion of M&S in France**				
Date	13 June 2023	**Place**	Online	**Type**	Webinar
Organiser	Avicenna Alliance, NAFEM, MICADO			**Co-organised**	Y
Participants	VPH				
Topic	Modelling and simulation				
Description	The Avicenna Alliance, NAFEM and MICADO held a Webex seminar to launch the Manifesto for the Promotion of Digital Modeling and Simulation (M&S) in France. The VPH Institute took part in the seminar and presented the project in representation of the SIMCor consortium.				
Talks	Presentation of SIMCor by Raphaelle Lesage (VPH) included in the talk *"Témoignage du 'Virtual Physiological Human Institute"*. The session included roundtable discussions with industry and regulatory bodies to evaluate challenges and necessary initiatives to advance the consideration of in-silico evidence as part of the regulatory evaluation process.				
Dissemination	SIMCor website, X				

(24) Privacy and technological scenarios for health data reuse

Figure 25: Graphics of the EU-funded projects roundtable.

Title	**EU funded projects roundtable: privacy and technological scenarios for health data reuse**				
Date	19 June 2023	**Place**	Online	**Type**	Workshop
Organiser	Panetta & Associati, LYN			**Co-organised**	Y
Participants	LYN, CHA				
Topic	Health data reuse				
Description	The online roundtable of EU-funded projects "Privacy and Technological Scenarios for Health Data Reuse" focused on discussing and analysing the current data privacy-related constraints to scientific progress in the biomedical field, to address the urgent search for legal and technical solutions for the reuse of personal and health data. The roundtable was organised by the Panetta & Associati law firm and Lynkeus Srl and as part of the DataTools4Heart consortium, an EU-funded project the aim of which is to improve the lifestyle of patients suffering from cardiovascular diseases by developing a comprehensive, federated, privacy-preserving toolbox for data reuse in cardiology. During the roundtable, projects presented their mission and goals, together with the difficulties and lessons learnt in the sharing and reuse of health data for their research purposes.				
Talks	Jan Bruning (CHA) presented SIMCor and the challenges faced for the reuse of health data in the project				
Dissemination	SIMCor website				

(25) IEEE CBMS 2023

Figure 26: CMBS 2024 banner.

Title	**IEEE 36th International Symposium on Computer Based Medical Systems (CBMS) 2023**				
Date	22-24 June	**Place**	L'Aquila, Italy	**Type**	Symposium
Organiser	Institute of Electrical and Electronics Engineers (IEEE)			**Co-organised**	-
Participants	UTBV				
Topic	Computer-based medical systems				
Description	Attracting a worldwide audience, CBMS is the premier conference for computer-based medical systems and one of the main conferences in the fields of medical informatics and biomedical informatics. CBMS allows the exchange of ideas and technologies between academic and industrial scientists. The scientific program of IEEE CBMS 2023 consisted of regular and special track sessions with technical contributions reviewed and selected by an international programme committee, as well as keynote talks and tutorials given by leading experts in their fields. The CBMS 2023 edition also hosted high-quality papers about industry and real case applications as well as allowed researchers leading international projects to show to the scientific community the main aims, goals, and results of their projects.				
Talks	Talk and conference abstract: C. A. Hatfaludi et al., *"Deep Learning Based Detection of Collateral Circulation in Coronary Angiographies,"* 2023 IEEE 36th International Symposium on Computer-Based Medical Systems (CBMS), L'Aquila, Italy, 2023, pp. 886-891, doi: 10.1109/CBMS58004.2023.00337				
Dissemination	-				

(26) ESB2023

Figure 27: ESB 203 banner.

Title	**28th Annual Congress of the European Society of Biomechanics**				
Date	9-12 July	**Place**	Maastricht, Netherlands	**Type**	Conference
Organiser	European Society of Biomechanics (ESB), Maastricht University			**Co-organised**	Y
Participants	CHA, LYN, BIO, ECRIN, PHI, UTBV, UCL, VPH				
Topic	Combining data- and knowledge-driven modelling from measurements through insights to decisions				
Description	The annual international scientific conferences of the ESB provide the most up-to-date research in biomechanics and a forum of discussion				
Talks	Pre-course series Members of the SIMCor and InSilicoWorld consortia, including CHA, LYN, BIO, ECRIN, UTBV, UCL, and VPH were involved as organisers, moderators and speakers in a pre-course series focused on modelling approaches, virtual cohorts and in-silico trials for device testing (Sunday 9 July, from 8:30 to 18:30 CEST). The course encompassed (1) statistical shape modelling (SSM), (2) state-of-the-art modelling approaches for device testing (AI-based and hybrid modelling) and some current applications; (3) methodologies for virtual cohort generation, multi-level validation and some use case applications; (4) status quo and future perspectives of in-silico device trials, including advantages with respect to traditional patient-based trials, strategies for mapping engineering metrics to clinical endpoints, implementation and regulatory considerations. The course series leveraged current research in the field, as well as the work and lessons learnt from the SIMCor, InSilicoWorld and other relevant in-silico medicine projects (e.g., ScoliStorm, iHEART). The full programme can be summarised as below (SIMCor-related presentations available in open access):				

	I. Statistical shape modelling ● Lecture: Background and applications – Christophe Van Dijck (Materialise) ● Short intro of the Mimics innovation suite: How to create SSM of a human femur? – Arsham Makaryan (Materialise) II. AI-based and hybrid modelling: an introduction ● Lecture: Hybrid modelling – Francesco Regazzoni (Polimi) ● Use-case example: GANs for clinical data synthesis – Raji Ganesan (TU/e, InSilicoWorld) ● Use-case example: AI-based prediction of transvalvular pressure gradients in aortic stenosis – Jan Brüning (CHA) ● Use-case example: Generating synthetic aorta shapes using diffusion networks – Teodor Matei (Siemens/UTBV) III. Virtual cohort generation, validation and application ● Lecture: Virtual cohort generation and validation: a multi-level methodology – Wouter Huberts (TU/e, SIMCor) ● Use-case example: Virtual cohort generation of aortic valve stenosis geometries – Sabine Verstraeten (TU/e, SIMCor) ● Use-case example: A statistical shape model of the porcine and human pulmonary artery for evaluation of medical devices – Jan Brüning (CHA, SIMCor) ● Use-case example: Automatic spine modelling for clinical cohorts – Joeri Kok (TU/e, ScoliStorm) IV. From patient-based to in-silico trials: status quo and future perspectives ● Lecture: Patient-based clinical trials – Pablo Verde (ECRIN, SIMCor) ● Lecture: From engineering metrics to clinical endpoints – Andreas Arndt (Biotronik, SIMCor) ● Round table discussion: Open issues and regulatory aspects – Moderator: Liesbet Geris (KU Leuven/VPHi, SIMCor/InSilicoWorld) *Talks* ● Tuesday 11 July - *Oral session: Advanced computing for biomechanics II* ○ Pre-operative risk assessment of paravalvular leakage using a computational tavi deployment model. M. Spanjaards, R. Ubachs, V. Lavezzo, O. Van der Sluis. ● Wednesday 12 July - *Oral session: Computer aided diagnosis, planning, and surgery II: Cardiac and other surgeries* ○ Inter-species differences in pulmonary artery morphometry and hemodynamics. J. Brüning, N. Krüger, P. Yevtushenko, L. Goubergrits. *Poster sessions* ● *Poster session II: Cardiovascular biomechanics* ○ Potential of using shell elements methods in fsi simulations of pulmonary arteries. H. Moradi, F. van de Vosse, W. Huberts. ● *Poster session III: Clinical and translational biomechanics / in silico clinical trials* ○ Virtual cohort generation for in silico trials of transcatheter aortic valve implantation. S. C. F. P. M. Verstraeten, M. J. M. M. Hoeijmakers, F. N. van de Vosse, W. Huberts. This poster has also a *pitch video* available.
Dissemination	SIMCor website, X

(27) BMT 2023

Figure 28: BMT 2023 banner.

Title	**57th Annual Conference of the German Society for Biomedical Engineering**				
Date	26 - 28 September 2023	**Place**	Duisburg, Germany	**Type**	Conference
Organiser	German Society for Biomedical Engineering			**Co-organised**	-
Participants	IIB				
Topic	Medical translation, patient-centred medicine, regulatory affairs, sustainability in healthcare, deep medicine and technical sovereignty				
Description	The conference gathers every year European scientists, physicians, engineers, researchers, students, and young professionals to exchange knowledge and experiences of the latest biomedical trends and findings. BMT covers a wide range of topics from basic research, applied research, clinical research and medical applications. This includes established topics such as imaging, image and signal analysis, modelling and simulation, biomaterials, implants, and robotics, as well as most current trends in precision medicine, digital health, artificial intelligence, wearables, nanotechnology and additive manufacturing. In 2023, key topics of the conference were medical translation, patient-centred medicine, regulatory affairs, sustainability in healthcare, deep medicine and technical sovereignty. A goal of the conference was also to promote young talents, offering several professional and social side events such as Company Tinder, Young Forum, Get Together, or its Evening Event.				
Talks	Talk • Thu 28 Sept, 11:30 – 11:45 (Applications of Artificial Intelligence III session – Gerhardt Mercator-Lounge Room), Jan Oldenburg, Finja Borowski, Wiebke Wollenberg, Alper Öner, Klaus-Peter Schmitz, Michael Stiehm (IIB), *"Augmentation of experimentally obtained flow fields by means of Physics Informed Neural Networks (PINN) demonstrated on aneurysm flow"*. Poster				

	• Wed 27 Sept, 16:00 – 17:00 (Poster session B – Posterausstellung im Foyer): Finja Borowski, Sebastian Kaule, Jan Oldenburg, Alper Öner, Klaus-Peter Schmitz, Michael Stiehm (IIB), *"In silico model to assess thrombosis risk of TAVR with hemodynamic predictors using fluid structure interaction"*.
Dissemination	SIMCor website, X

(28) Avicenna Days 2023

Figure 29: Avicenna Days 2023 banner.

Title	**Avicenna Days 2023**				
Date	10-12 October 2023	**Place**	Online	**Type**	Conference
Organiser	VPH			**Co-organised**	Y
Participants	VPH				
Topic	Adoption of in-silico modelling and simulation technologies				
Description	The 2023 Avicenna Days brought together regulators, scientists, researchers, industry and academia leaders to update the entire healthcare community on recent progress and achievements related to the adoption and deployment of in silico methods. Prestigious delegates from the entire in silico community presented, debated, inspired and engaged with the audience to accelerate medical innovation through Computer Modeling and Simulation (CM&S).				
Talks	-				
Dissemination	-				

(29) TCT 2023

Figure 30: TCT 2023 banner.

Title	**Transcatheter Cardiovascular Therapeutics – 35th annual scientific symposium for interventional cardiovascular medicine**				
Date	23 - 26 October 2023	**Place**	San Francisco, California	**Type**	Conference
Organiser	Cardiovascular Research Foundation (CRF)			**Co-organised**	Y
Participants	IIB				
Topic	Cardiovascular disease interventions				
Description	Each year, TCT gathers more than 12,000 participants from more than 100 countries, including scientists, researchers and clinicians from around the world, to present and discuss the latest evidence-based research. The TCT is organised by the CRF, one of the world's leading non-profit organisations specialising in innovation, research and education in interventional cardiology. The CRF's mission is to help physicians improve the survival and quality of life of people with cardiovascular disease. For over 30 years, the CRF has helped accelerate medical breakthroughs and educate physicians about the latest treatments for heart disease. The 12 studies selected for presentation at TCT examine the safety and efficacy of minimally invasive techniques, drugs, technologies and devices that show potential to treat or prevent cardiovascular disease.				
Talks	-				
Dissemination	SIMCor website, X				

(30) EPHC 2023

Figure 31: EPHA 2023 banner.

Title	**16th European Public Health Conference (EPHC)**				
Date	8 - 11 November 2023	**Place**	Dublin, Ireland	**Type**	Conference
Organiser	EPH Association			**Co-organised**	N
Participants	IHS				
Topic	Public health				
Description	EUPHA has been organising the European Public Health Conference, an annual scientific conference, since 1992. The first EPH Conference was held in Paris in December 1992, when representatives of national public health associations of 11 European countries met in Paris to establish the EPHA.				
Talks	Siegfried Eisenberg (IHS), *"The socioeconomic impact of in-silico models for implantable medical devices: a conceptual framework".*				
Dissemination	-				

(31) MEDICA 2023

Figure 32: MEDICA 2023 banner.

Title	**MEDICA 2023**				
Date	13 - 16 November 2023	**Place**	Düsseldorf, Germany	**Type**	Conference
Organiser	Messe Düsseldorf GmbH			**Co-organised**	-
Participants	IIB				
Topic	Digital transformation of the healthcare system				
Description	MEDICA is one of the leading international medical B2B trade fairs in the world, with over 5,300 exhibitors from almost 70 countries and 83,000 visitors, providing companies, research institutes and professionals an important comparative opportunity to present and discover the latest developments and innovations in the healthcare sector. A wide range of innovative products and services from the fields of medical imaging, laboratory technology, diagnostics, health IT, mobile health, physiotherapy/orthopaedic technology and medical consumables are presented here. The extensive programme of first-class forums, conferences and special shows offers the opportunity for interesting presentations and discussions with experts and politicians and also includes product presentations and award ceremonies. Medica has also been honoured with the German Medical Award, which recognises outstanding achievements in medicine. Whether at the trade fair, the conference or the specialist forums, the main focus this year was on the digital transformation of the healthcare system in connection with the increasing “outpatientisation” of treatment and networking of clinics with one another. Another trend is solutions based on artificial intelligence (AI) and supporting systems, such as robotic systems or solutions for implementing more sustainable processes.				
Talks	IIB took part in MEDICA and presented SIMCor to the international MedTech community. IIB participated in a second panel discussion on the topic of AI in medical technology (1.30 pm, room 14a, Stockumer Kirchstraße 61) where doctors, quality managers and ethicists discussed critical aspects of the introduction of medical AI in clinical application environments. Topics such as user characteristics and trust in the technology were also discussed.				
Dissemination	SIMCor website, X				

(32) IEEE-EMBS Benelux Chapter

Figure 33: Banner of the IEEE-EMBS joint meeting.

Title	[Annual Meeting of the IEEE-EMBS Benelux Chapter and 21st National Day of Biomedical Engineering]				
Date	16-17 November 2023	**Place**	Brussels, Belgium	**Type**	Meeting
Organiser	IEEE-EMBS Benelux Chapter, NCBME			**Co-organised**	-
Participants	IHS				
Topic	Bioelectronic Medicine and Medical Devices, Advancing Healthcare through digital twins & virtual technologies				
Description	This was a combined meeting, including: (1) 16 November 2023: Université Libre de Bruxelles (ULB), *Annual Meeting of the IEEE-EMBS Benelux Chapter*; (2) 17 November 2023: *21st National Day of Biomedical Engineering*, Vrije Universiteit Brussel. The event encompassed an afternoon at ULB focused on medical devices, with a keynote lecture by Dr. Langereis (IMEC) on "Bioelectronic medicine" and scientific contributions from PhD Students in the Benelux, followed by a social event in the evening. On the 17th, the National Day of Biomedical Engineering at VUB focused on the hot topic of digital twins, with keynote lectures, roundtable panels, posters, talks, and much more.				
Talks	David Roesler (IHS) participated to both events with the presentation *"The socioeconomic impact of in-silico models for implantable medical devices: a conceptual framework"*.				
Dissemination	LinkedIn, X.				

Third reporting period (M37-M42)

In the **third reporting period (1 January 2024 – 30 June 2024)**, the majority of the project final results emerged and could be leveraged through peer-reviewed publications and conferences. The interaction with regulatory and notified bodies became closer, with the FDA symposium being an important step in the dialogue with regulators in the use of in-silico methods for regulatory approval, as well as the collaboration with sister in-silico projects, culminating in the organisation of the 2nd edition of INNOVAHEART under the lead of SIMCor and SimInSitu.

(33) First EDITH-CSA ecosystem meeting

Figure 34: Banner of the 1st EDITH open meeting on building the VHT.

Title	**First EDITH-CSA 'Ecosystem meeting on building the Virtual Human Twin'**				
Date	18-19 January	**Place**	Paris, France	**Type**	Project meeting
Organiser	EDITH consortium			**Co-organised**	Y (LYN, VPH)
Participants	CHA, LYN, VPH				
Topic	Building of the European VHT				
Description	After the official launch of the VHT initiative and the VHT Manifesto in December, this was the first open community meeting to discuss the design and implementation of the European VHT strategy. The meeting attracted over 180 registered guests from the EDITH-CSA consortium and the wider ecosystem, including CHA, representing all aspects of the ecosystem: academia, industry, research institutes, hospitals, HPC centres, HTA agencies, legal offices, ethics societies, as well as social sciences, civil and patient organisations. The 2 days of insightful breakout sessions considered the most fundamental building blocks for realizing the VHT: real-world data generation, AI, use cases, integration of resources, platform processes and services, usability, standards for digital twins, European infrastructures and networks, business models and incentivisation, clinical uptake, ethics and social trust.				

	The collective brainstorming by diverse stakeholders from academia, industry, research institutes, hospitals, policymakers, regulators, legal and ethics experts, patient organizations and more, facilitated interdisciplinary contributions. The 14 breakouts that allowed small-group discussions to diverge and capture open questions and inputs from the wider community. Further, it also enabled the EDITH-CSA consortium to provide first-hand clarification on the draft roadmap, while inviting the wider ecosystem to contribute to the roadmap writing. Observations from the individual sessions were then diligently collated and summarized in the plenary sessions. The meeting was graced by Kyriacos Hatzaras (DG-CNECT) as well as other representatives of the European Commission, which launched the VHT initiative. The meeting concluded with insights and learnings from similar large infrastructures, including the likes of BBMRI-ERIC, EBRAINS and 12 Labours project. The valuable insights from the breakout session reports provided additional inspiration for tackling some of the identified challenges.
Talks	-
Dissemination	VPH website, X

(34) INNOVAHEART 2024

Figure 35: INNOVAHEART 2024 banner.

Title	**INNOVAHEART 2024: the European workshop on the digital heart**				
Date	6-7 February 2024	**Place**	Leuven, Belgium	**Type**	Workshop
Organiser	INNOVAHEART project group (SIMCor, SimInSitu, SimCardioTest, EDITH, InEurHeart)			**Co-organised**	Y
Participants	CHA, LYN, BIO, ECRIN, IHS, IIB, TUE, TUG, UCL, and VPH members as organisers, attendees, moderators and speakers.				
Topic	Open challenges in cardiovascular modelling and its clinical application				
Description	INNOVAHEART 2024, the 2nd edition of the European workshop on the digital heart, aimed to gather cardiovascular modelling experts from academia, industry, and regulatory and notified bodies to discuss advancements, challenges, and outstanding issues in the field of in-silico modelling in cardiovascular medicine. As for the 2023 edition, the workshop represents a joint effort of the SIMCor, SimInSitu, SimCardioTest H2020 RIAs, as part of the SC1-DTH-06-2020 cluster, the EDITH HEurope CSA, and the inEurHeart EIT Health innovation project. This 2024 edition, jointly led by SIMCor and SimInSitu, focussed on the challenges of efficiently transitioning in-silico models from the research environment to clinical application. To do so, the workshop leverage keynote talks and a series of working groups on key open challenges and recent topics, giving the opportunity to delve deeper into specific barriers in the translation process, as below:				

	• *WG1 - Translation of industry problems:* current problems faced by industry and how in-silico models can potentially support them. Moderator: L Geris (VPH) - Speakers: M Cox (Xeltis BV), P Favre (Zimmer Biomet). • *WG2 - From the basics of clinical trials to the development of in-silico clinical trials*: presentation of clinical trial design and execution, inclusive of their distinct requirements and regulatory considerations, and the concept of in-silico clinical trials, along with its advantages and limitations. Moderator: J Brüning (Charité) - Speakers: J Colombel (DS), S Levine, T Battisti (DS), PE Verde (ECRIN). • *WG3 - Assessing the credibility of in-silico models* (Part 1 and Part 2): how to generate and assess the credibility of in-silico models, as well as to understand the predictive capability of the model validation results as we approach the limits of the validation space. Moderator: N Götzen (4RS) - Speakers: N Götzen (4RS), L Geris (VPHi), O Camara (UPF). • *Start-up live session (PrediSurge, InSilicoTrials, inHeart)*: success stories of in-silico clinical trial platforms. • *WG4 - Mapping engineering metrics with clinical endpoints*: discussing SIMCor framework for linking clinical outcomes to engineering metrics, its limitations and potential solutions. Moderator: A Arndt (Technische Universität Dresden) – Speakers: J Brüning (Charité – Universitätsmedizin Berlin), M Stiehm (Institut für ImplantatTechnologie und Biomaterialien e.V.), J Mill Tena (Universitat Pompeu Fabra) • *WG5 - Assessing the socioeconomic impact of in-silico technologies*: discussing the socioeconomic impacts of in-silico technologies on various stakeholders and society at large, open challenges and the potential impacts of in-silico technologies. Moderator: M Kraus (Institut für Höhere Studien) – Speakers: C Rousseau (Voisin Consulting Life Sciences), D Rösler (Institut für Höhere Studien), C Zech (Institut für Höhere Studien).
Talks	Posters • Sabine Verstraeten, Martin Hoeijmakers, Frans van de Vosse, Wouter Huberts (TUE), *"Fluid-structure interaction simulations for the assessment of aortic valve stenosis severity"*. • Laura Supp, Julian Renkewitz, Finja Borowski, Michelle Spanjaards, Sebastian Kaule, Alper Öner, Klaus-Peter Schmitz and Michael Stiehm M (IIB), *"Evaluation of the leakage rate of transcatheter aortic valve prostheses in virtual patients."* • Jan Oldenburg, Finja Borowski, Alper Öner, Sebastian Kaule, Klaus-Peter Schmitz, Michael Stiehm (IIB), *"Fluid mechanical characterization of transcatheter aortic valve prostheses using deep learning surrogate models."*
Dissemination	• INNOVAHEART website • SIMCor website, X and LinkedIn, including a dedicated social media campaign • SimInSitu, SimCardioTest, EDITH, InEurHeart, VPH websites and social media

(35) Workshop: the regulatory barriers to in silico trials

Figure 36: Banner of the Workshop: the regulatory barriers to in silico trials.

Title	**Workshop: the regulatory barriers to in silico trials**				
Date	14 March 2024	**Place**	Catania, Italy, and online	**Type**	Workshop
Organiser	InSilicoWorld consortium			**Co-organised**	Y (VPH)
Participants	CHA, LYN, VPH				
Topic	In-silico clinical trials				
Description	This e-workshop was organised by the In Silico World project, and hosted by the University of Catania, for discussing the regulatory barriers to in-silico trials. The event summarised the work done within the InSilicoWorld project on the regulatory barriers that slow down the adoption of in-silico trials (i.e., the use of modelling and simulation to assess the risk of new medical products) for both medical devices and medicinal products. The invitation was addressed to all academics, regulators, industry and policymakers interested in the regulatory aspect of the use of computer modelling and simulation in the development and regulatory certification of new medical devices. The workshop concluded with a round table discussion on assessing the credibility of data-driven predictors.				
Talks	-				
Dissemination	SIMCor website; VPH Website				

(36) II focus group on in-silico medicine

Title	**II focus group on in-silico medicine Vienna**				
Date	28 March 2024	**Place**	St. Pölten, Austria	**Type**	Focus group
Organiser	IHS			**Co-organised**	Y
Participants	IHS				
Topic	In-silico modelling and simulation for medical device development				
Description	The 2nd focus group on in-silico medicine was organised by IHS in St. Pölten, Austria, at the organisation *Selbsthilfe Niederösterreich*. The focus group was organised by IHS, in German, following the structure and leveraging the materials elaborated by the consortium for the I focus group (London, May 2023), but with more focus on the socioeconomic aspects, for the purposes of WP10. The focus group, with a duration of about 3 hours, involved 4 participants, all cardiovascular disease patients. Following a basic thematic introduction to medical devices, models and in silico methods, an open and then a topic-led group discussion took place. The focus group revealed patient perspectives on the impact of in silico methods on patient safety, clinical trials, animal testing, costs and prices.				
Talks	-				
Dissemination	-				

(37) FDA/MDIC Symposium on Computation Modelling and Simulation

Figure 37: Banner of the FDA/MDIC Symposium on Computation Modelling and Simulation.

Title	**FDA/MDIC Symposium on Computation Modelling and Simulation – Generating Regulatory In Silico Evidence**				
Date	15-17 April 2024	**Place**	Hyattsville, MD, USA	**Type**	Symposium
Organiser	FDA, MDIC			**Co-organised**	-
Participants	VPH, CHA				
Topic	Computer modelling and simulation for generating regulatory evidence				
Description	The Symposium was co-organised by medical device industry leaders and FDA members, to drive innovation and foster collaboration in computational modelling and simulation to advance regulatory evidence in the medical device industry. On Day 1 - CM&S Pre-symposium Workshop, a few training sessions were held, including the ASME V&V 40-2018 standard "Assessing Credibility of Computational Modeling Through Verification and Validation: Application to Medical Devices", the FDA Guidance on "Assessing the Credibility of Computational Modeling and Simulation in Medical Device Submissions", and the FDA Guidance on "Reporting of Computational Modeling Studies in Medical Device Submissions". On Day 2 - Main symposium, panel discussions were held to present best practices and strategies to ensure models meet the highest standards of credibility and reliability. It explored the cutting edge of applying computational evidence in both clinical and non-clinical settings to generate evidence for regulatory decision-making, to uncover the potential of computational modelling and simulation in shaping the future of regulatory assessments and decision protocols.				
Talks	VPH presented a poster titled: *The role of ecosystem organizations in advancing in silico medicine and regulatory science*. J.R. Rangarajan, Z. Van Horenbeeck, L. Geris. FDA/MDIC Computational Modeling and Simulation Symposium– Apr 15-17, 2024, Maryland, USA – Poster abstract. Report on the symposium.				
Dissemination	SIMCor website, VPH website.				

(38) SHEA annual conference 2024

Figure 38: Banner of the SHEA conference 2024.

Title	[SHEA (Swedish Health Economic Association) conference "The Future of Health Economics: The Potential of Real-World Data in Shaping Health Policy"]				
Date	15-16 April 2024	**Place**	Uppsala, Sweden	**Type**	Conference
Organiser	Swedish Health Economic Association			**Co-organised**	-
Participants	IHS				
Topic	The future of health economics: the potential of real-world data for shaping health policy				
Description	The SHEA Annual Conference 2024, organised by the Swedish Health Economic Association, will take place on 15-16 April in Uppsala, Sweden, under the theme "The future of health economics: the potential of real-world data for shaping health policy".				
Talks	• Session 7 – Affordability and accessibility: David Rosler (IHS), *"The socioeconomic impact of in-silico models for implantable medical devices: a conceptual framework"*, where he reported the work performed in the project (WP10) on the socioeconomic impact assessment of in-silico technologies.				
Dissemination	SIMCor website, X, LinkedIn.				

(39) RAPS Euro Convergence 2024

Figure 39: RAPS Euro Convergence banner.

Title	**RAPS Euro Convergence – Regulatory Affairs Professional Conference**				
Date	6-8 May 2024	**Place**	Berlin, Germany	**Type**	Congress
Organiser	*Regulatory Affairs Professional Society* (RAPS)			**Co-organised**	-
Participants	VPH				
Topic	Regulatory Collaboration Through Unification				
Description	The European Regulatory Congress – RAPS Euro Convergence was organised by the RAPS, bringing together key opinion leaders from regulators (EMA), policymakers (EC), national competent authorities (NCA) and conformity assessment agencies, but also members of the *notified bodies* (NB) as well as professionals from pharmaceutical, medical devices and in vitro device industries. The 3-day program included parallel tracks for pharma, devices and IVD sectors, with a mix of key-notes and live panel discussions that debated the fast-evolving policy landscape, including the AI act. While the challenges and bottlenecks with the adoption of MDR continued to spark concerns, it was also encouraging to see the marked progress made in the last year. RAPS Euro convergence was an opportunity to engage with the key regulatory stakeholders from Europe, to mutually learn and establish bridges for the wider in silico medicine community. It facilitated VPH to represent SIMCor and the modelling ecosystem to policymakers, regulators and members of the notified bodies, and to understand their key perspectives and concerns. Learnings included the importance of quick wins through the mechanism of medical device coordination group guidelines to overcome some barriers, as well as the need to rally the in-silico community to join the discussions on emerging technologies, within the regulatory arena. As a take home, it was a valuable moment for the CM&S community like SIMCor to better understand their key stakeholders, in order to best advance in-silico solutions into mainstream health technology life-cycle discussions.				
Talks	VPH participated as a delegate				
Dissemination	VPH website				

(40) EHMA 2024

Figure 40: Banner of the EHMA 2021 conference.

Title	**29th European Health Management Association Conference 2024**				
Date	5-7 June 2024	**Place**	Bucharest, Romania	**Type**	Conference
Organiser	European Health Management Association (EHMA), Ministry of Health of Romania, National Institute for Health Services Management (INMSS)			**Co-organised**	-
Participants	IHS				
Topic	'Shaping and managing innovative health ecosystems'				
Description	The EHMA Conference has served as a forum for promoting discussions and sharing innovative solutions in the ever-evolving healthcare landscape, bringing together a wide spectrum of healthcare stakeholders, including managers, leaders, researchers, academics, policymakers, and industry representatives, to enhance the dialogue on pressing health management issues and achieve excellent health management for a healthy Europe. The conference focused on "Shaping and managing innovative health ecosystems", and encompassed the entire spectrum of health megatrends, from the digital transformation of healthcare systems and services to the ever-growing importance of sustainability, and the evolving skill sets required by the healthcare workforce, and how the health sector is adapting to these changes. The aim of the conferences was to facilitate dialogue on how different healthcare actors can work together and leverage each other's strengths to drive innovation and address pressing challenges.				
Talks	Session *"Economic and health outcome evaluation"*, David Rosler (IHS), *"The Socioeconomic Impact of In-Silico Models for Implantable Medical Devices: A Conceptual Framework."*				
Dissemination	X				

(41) European Open Science Forum

Figure 41: Banner of the European Open Science Forum.

Title	**European Open Science Forum**				
Date	12-15 June 2024	**Place**	Katowice, Poland	**Type**	Congress
Organiser	EuroScience, the European Association for the Advancement of Science and Technology based in Strasbourg			**Co-organised**	Y (VPH)
Participants	VPH, TUE				
Topic	The Future of Healthcare is Digital				
Description	Members of VPHI and TUE joined the panel of experts on *"The Future of Healthcare is Digital"*, at the European Science Forum 2024. During the 4-day pan-European science outreach event, a dedicated in-silico-centric session is scheduled. During this session, moderated by the VPH, members of SIMCor consortium presented the advancements in in-silico medicine to the wider public, policymakers and science enthusiasts. While Prof. Liesbet Geris (ULiège, KU Leuven, VPH) will introduce in silico medicine and the Virtual Human Twin Initiative, Prof. Wouter Huberts (TUE) presented a practical use case on cardiovascular modelling that relates to the virtual cohort generation work (WP7) within SIMCor. Additionally, Zita Van Horenbeeck (VPH) will discuss some of the key social implications of such technologies, drawing a few lessons from the 'Patient engagement with Focus Groups within SIMCor (WP2, WP10)'.				
Talks	Wouter Huberts (TUE), Liesbet Geris, Zita van Horenbeeck (VPHI).				
Dissemination	X				

(42) HTAi 2024

Figure 42: HTAi 2024 banner.

Title	**Health Technology Assessment Annual Meeting 2024**				
Date	15-19 June 2024	**Place**	Seville, Spain	**Type**	Meeting
Organiser	Health Technology Assessment International (HTAi)			**Co-organised**	N
Participants	VPH				
Topic	A Turning Point for HTA? Sustainability, Networks and Innovation				
Description	The HTAi Annual Meeting is a key international gathering of a large number of researchers, agencies, policymakers, industry, academia, health service providers, and patients/consumers to share information and best practices from cutting-edge technologies to system development with a focus on impact on patient care. To bolster SIMCor objectives on quantifying and accelerating the added value of in-silico solutions for healthcare stakeholders and society as a whole (O2, O3), VPH is participating at the annual Health Technology assessment meeting. As part of WP10 activities on impact assessment of in-silico solutions for stakeholders in healthcare, industry and socio-economic, this meeting represented an opportunity to first observe the developments and discussions amongst key stakeholders, and it helped to inform them about novel in-silico solutions and their value addition to the healthcare technology life cycles, thus bringing visibility to SIMCor activities while taking home learnings for the consortium.					
Talks	VPH participated as a delegate				
Dissemination	X				

(43) CMBE24

Figure 43: CMBE24 banner.

Title	**8th International Conference on Computational and Mathematical Biomedical Engineering**				
Date	24-26 June 2024	**Place**	Arlington, Virginia, USA	**Type**	Conference
Organiser	CMBE			**Co-organised**	-
Participants	CHA				
Topic	Computational biomedical engineering research				
Description	The CMBE aims to bring together fellow researchers and academics, specialists of several disciplines, practitioners and graduate students to discuss the current state of the art of computational biomedical engineering research. The themes range from theoretical or fundamental aspects to implementation of new methodologies, assessment, verification/validation and varied applications in all fields of application, including (and not limited to) cardiovascular modelling, respiratory systems, biofluid and biosolid mechanics, AI and digital twins, soft tissue, constitutive modelling, experimental validation, numerical methods, data-driven modelling for biomedical applications, multiscale modelling, analytical approaches, high-performance computing, biological heat and mass transfer, biology and its links to diseases, biomechanics and oncology, imaging and image processing, uncertainty quantification, computational medicine.				
Talks	Leonid Goubergrits (CHA), *"Comparison of the human and animal application of the PAPS"*.				
Dissemination	SIMCor website				

Beyond SIMCor

After the project ends, the consortium will continue to disseminate its results, as **several papers on final project results have recently been accepted or are in preparation** and will be submitted in the coming months. Most importantly, the **collaboration among consortium partners and with the other sister in-silico projects (INNOVAHEART group)** will continue, among others with the organisation of a cardiovascular modelling session within VPH 2024, as well as the **dialogue between the VPH and Avicenna Alliance, regulators and notified bodies** on the adoption of in-silico strategies as a complementary tool for medical device regulatory approval.

(44) ESB 2024

Figure 44: Banner of the ESB 2024.

Title	**29th Congress of the European Society of Biomechanics**				
Date	30 June – 3 July	**Place**	Edinburgh, United Kingdom	**Type**	Conference
Organiser	European Society of Biomechanics (ESB)			**Co-organised**	-
Participants	CHA, LYN, TUE				
Topic	Biomechanics from research to practice				
Description	ESB 2024 will focus on "Biomechanics from research to practice", highlighting the importance of the dialogue and collaboration between the biomechanics and the clinical communities. Its scientific programme will include keynote speakers, podium and poster contributions on the latest research developments on all branches of biomechanics, interactive and mentoring sessions, student activities, exhibitions and networking events.				
Talks	• Adriano Schlief (CHA), "In-Silico Clinical Trial to assess the effect of pulmonary side branches on the PAPS"; • Jan Bruning (CHA), "In-Silico Preclinical Trial for assessing the thrombosis risk in the chronic animal experiments". Posters: • Sabine Verstraeten, presented by Wouter Huberts (TUE), "A fluid-structure interaction simulation framework to distinguish between true and pseudo-severe aortic stenosis".				
Dissemination	SIMCor website, X, LinkedIn				

(45) EDITH final ecosystem meeting

Figure 45: Banner of the final ecosystem meeting of the EDITH project.

Title	**Final Ecosystem Meeting of the EDITH project – Building the Virtual Human Twin**				
Date	15 – 16 July 2024	**Place**	Amsterdam, The Netherlands	**Type**	Project meeting
Organiser	EDITH consortium			**Co-organised**	Y (VPH, LYN)
Participants	LYN, VPH, TBD (additional partners of the consortium have been invited and are interested in joining, including CHA, TUE, IIB, UCL, and BIO)				
Topic	Building the VHT				
Description	The 2nd and final EDITH Ecosystem Meeting will take place on 15 and 16 July 2024 in Amsterdam at the KIT Royal Tropical Institute. The main purpose of this meeting is to inform the ecosystem about the progress on the *Virtual Human Twin* (VHT) roadmap and the proof-of-concept EDITH infrastructure, to receive input on the last open elements of the VHT roadmap, and to start the process of the ecosystem validation for the VHT roadmap and its final recommendations. The meeting marks the conclusion of the work that the EDITH consortium, expert advisors, and the entire ecosystem have been doing in a series of activities, including online and physical meetings and discussions of experts and the ecosystem, surveys, and public writings.				
Talks	-				
Dissemination	SIMCor website, X, LinkedIn				

(46) CMBBE 2024

Figure 46: CMBBE 2024 banner.

Title	**19th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering**				
Date	30 July – 1 August	**Place**	Vancouver, Canada	**Type**	Symposium
Organiser	International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE)			**Co-organised**	-
Participants	TUE				
Topic	Computer methods in biomechanics and biomedical engineering				
Description	The symposium explores the latest advancements in computational approaches to biological and medical problems, ranging from molecular modelling to healthcare informatics, including computational biomechanics and computational bioimaging, through oral sessions, poster sessions, and networking events.				
Talks	• Sabine Verstraeten (TUE), *"A fluid-structure interaction approach to distinguish between true and pseudo-severe aortic stenosis"*.				
Dissemination	SIMCor website, X				

(47) VPH 2024

Figure 47: Banner of the VPH 2024 Conference.

Title	**Virtual Physiological Human 2024 Conference**				
Date	4 - 6 September 2024	**Place**	Stuttgart, Germany	**Type**	Conference
Organiser	VPH, Institute for Modelling and Simulation of Biomechanical Systems - University of Stuttgart			**Co-organised**	Y (VPH)
Participants	CHA, LYN, TUE, VPH				
Topic	Data-driven simulation technologies for clinical decision making				
Description	VPH 2024 conference will focus on data-driven simulation technologies for clinical decision-making. Some of the topics will include big data and machine learning, finite-element modelling of the skeletal muscle structure, cardio-vascular research in silico trials, neural engineering, cell and soft tissue engineering, image-based analysis, regulations and in silico trials. Among others, a cardiovascular modelling session is being organised in collaboration with the other sister in-silico projects of the INNOVAHEART group.				
Talks	• Jan Bruning (CHA), *"In-silico clinical trial to assess the effect of pulmonary side branches on the PAPS"*; • Jan Bruning (CHA), *"In-silico preclinical trial for assessing the thrombosis risk in the chronic animal experiments"*; • Leonid Goubergrits (CHA), *"Comparison of the human and animal application of the PAPS"*; • Sabine Verstraeten (TUE), *"Virtual cohort generation for in silico trials of transcatheter aortic valve implantation"*; • Zita Van Horenbeeck, Raphaëlle Lesage, Artem Platonov; Martina Contin, Michiel van Oudheusden, Elisa Lievevrouw, Bernard Staumont; Janaki Raman, Silvia Schievano; Ine Van Hoyweghen, Claudio Capelli, Liesbet Geris (UCL, VPH), *"Computer modelling and simulation in clinics: longitudinal mapping of usage and Clinician's trust in in silico medicine"*; • Martina Contin, Davide Montesarchio, Zita Van Horenbeeck, Raphaëlle Lesage, Artem Platonov; Goran Stanic, Roberta De Michele, Janaki Raman				

	Rangarajan, Liesbet Geris (VPH), "*An in silico medicine Info kit for effective stakeholder engagement*".
Dissemination	SIMCor website, X, LinkedIn