

Fourth Swiss EPR Projectathon

21–25 September 2020, Bern

Final Report



Introduction

This document provides summarized information about the fourth Swiss Projectathon on the Electronic Patient Record (“EPR Projectathon”) performed in September 2020. It contains the following sections:

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Aims

This year’s slogan for the EPR Projectathon was “IHE on #FHIR”: New eMedication and mHealth specifications were tested for the first time based on new FHIR profiles. A second goal of the testing event was to further advance the group tests, to prepare for the arrival on the market of the EPR. Apart from the **preparation support for vendors**, the Projectathon aimed at the following other points:

- Identify potential issues in the **test tools** and the test plans;
- Identify potential issues in the **basic specifications**;
- Strengthen implementation guidelines (as IHE) and **standards** (as HL7) in the health sector;
- **Communication** about the EPR through on- and offline means (e.g. social media and public guided tours).

Test organisation

General overview

- **Event organisation:** The event was organised by the three parties eHealth Suisse, IHE Suisse and the Federal Office of Public Health FOPH with the technical support of IHE Europe Services.
- **Testing venue:** Testing was organised at [the Eventforum](#) in Bern.
- **Date:** The event started on Monday, September 21, at 8AM, and finished on Friday, September 25, at noon, 12PM. Opening hours were from 8AM to 6PM; testing took place from 9AM to 5PM.
- **Monitors:** A team of fifteen monitors was set up and trained to assist testers and verify the test cases. The monitors owned expertise on EPR specifications, and most of them had served before at one or more IHE European Connectathon or EPR Projectathon. The team was recruited, managed and led by Oliver Egger, who was mandated by eHealth Suisse.



Monitor team of EPR Projectathon 2020

- **Tools:** All legally based EPR profiles and specs were testable. Moreover new profiles for the eMedication and mHealth use cases could be tested for the first time. These profiles are not yet legally included into the ordinance to the national EPR. The tests were driven and reported by using the Swiss EPR reference environment, which is another instance of the IHE Gazelle toolbox (<https://ehealthsuisse.ihe-europe.net/gazelle>).
- **Virtual Machine:** All the tools used during the event were grouped in the same virtual machine under the URL <https://ehealthsuisse.ihe-europe.net>. The physical server was brought on site in order to secure the testing and prevent the risk of a loss of internet connectivity.



Technical support team of IHE Europe Services & EPR Staff

- **Network:** The network was managed by a subcontractor of eHealth Suisse (cofex).

Room set up of EPR Projectathon 2020

Daniel Kotlaris	Pedro dos Santos	Avintis SA				openmedicalAG		the i-engineer AG (TIE)			
		A11	A10	A9	A8	A7	A6	A5	A4		
		B11	B10	B9	B8	B7	B6	B5	B4	B3	
Grgic Pero	Mauro Tschanz	Sectra		Synedra				the i-engineer AG (TIE)			

Oliver Egger		X1		X3
Juerg Bleuer		X2		
Martin Smock				

Your Cadoret	Nicolas Bailliet	HUG				CARA		BFH		Post CH AG		
		C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1
		D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1
Tony Schaller	Michaela Ziegler	HCI Solutions AG				Cistec AG						

Stefan Iseli	Maurice Zysset	NEXUS Schweiz AG					DH HealthCare Switzerland AG (Dedalus)				AD Swiss			HIN
		E11	E10	E9	E8	E7	E6	E5	E4	E3	E2	E1	E0	
		F11	F10	F9	F8	F7	F6	F5	F4	F3	F2	F1	F0	
Treyvaud Sébastien Heer Philippe		(ARTS) Interact Digital AG						AD Swiss				HIN		

Details:

Oliver Egger		X1		X3
Juerg Bleuer		X2		
Martin Smock				

Youn Cadoret		X4		X5
Nicolas Bailliet		X6		X7
Alain Eschlimann				
Malo Toudic				

Daniel Kotlaris	Pedro dos Santos	Avintis SA		openmedicalAG		the i-engineer AG (TIE)		
A11	A10	A9	A8	A7	A6	A5	A4	
B11	B10	B9	B8	B7	B6	B5	B4	B3
Grgic Pero	Mauro Tschanz	Sectra	Synedra			the i-engineer AG (TIE)		

Roeland Luykx	Annatina Foppa	HUG		CARA		BFH		Post CH AG		
C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1
D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1
Tony Schaller	Michaela Ziegler	HCI Solutions AG				Cistec AG				

Stefan Iseli	Maurice Zysset	NEXUS Schweiz AG			DH HealthCare Switzerland AG (Dedalus)			AD Swiss			HIN
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F11	F10	F9	F8	F7	F6	F5	F4	F3	F2	F1	F0
Treyvaud Sébastien Heer Philippe		(ARTS) Interact Digital AG					AD Swiss				HIN

- **Preparation:** A brochure on the event was available from May 2020 [in German](#) and [in French](#). Information on the event was regularly updated on the website www.epr-projectathon.ch (in German, French, Italian, and English) and posted in the [Projectathon Googlegroup](#). Three webinars regarding the registration process and pre-Projectathon-tests were held by eHealth Suisse and IHE Europe Services in June and July 2020. The pre-Projectathon test phase lasted from July 1st, to September 15, 2020.
- **Fees:** The participant fee per person was 350 Swiss francs and included the participation, catering and the entrance to the social event. There were no additional fees per company or system.
- **Side events:** The “Social Event” took place at the Eventforum in Bern on Thursday during the testing week and offered food, beverages and a live guitar concert. From Monday to Wednesday, before and after testing hours, participants could visit the “technical coffee breaks” and listen to short presentations concerning eHealth / the EPR.
- **Communication:** During the event, external guests could visit the Projectathon with a “Guided Tour”, led by eHealth Suisse and IHE Suisse. eHealth Suisse, IHE Suisse and several participating vendors and monitors tweeted about the Projectathon. [Photographs](#) were produced and made freely available.



eHealth Suisse tweet



IHE Suisse tweet

Participating organisations

A total of 16 vendor organisations from 2 countries (Switzerland, Germany) participated with altogether 51 employees. Most of the companies, namely 10, had already participated at least once in an EPR Projectathon before, be it in Bern or at an IHE Connectathon.

- [CISTEC AG](#)
- [openmedical AG](#)
- [Post CH AG](#)
- [Interact Digital AG](#)
- [DH HealthCare Switzerland AG](#)
- [Berner Fachhochschule - Medizininformatik](#)
- [Cara](#)
- [NEXUS Schweiz AG](#)
- [Hôpitaux Universitaires de Genève \(HUG\)](#)
- [the i-engineers AG](#)
- [HCI Solutions AG](#)
- [Sectra Medical Systems GmbH](#)
- [synedra Schweiz AG](#)
- [AD Swiss](#)
- [Avintis SA](#)
- [HIN](#)

Additionally, two federal institutions' EPR services were remotely available for support at the Projectathon for the UPI and the EPR central query services:

- [Central Compensation Office CCO \(editor of the specific patient identifier number\)](#)
- [Federal Office of Information Technology, Systems and Telecommunication FOITT \(responsible for various central index services such as the community portal index\)](#)

In comparison with the last three EPR Projectathons in Bern, the participation was lower. This was partly due to the Covid-19 outbreak and its sanitary and political consequences, as well as to the delay in the go live of the EPR, previously scheduled for April 2020. Moreover the platform providers currently have a lot of work linked to the still ongoing technical certification process.

Year of Projectathon	2020	2019	2018	2017
Companies	16	19	23	16
Participants	51	82	88	79
Monitors + Technical support	15 monitors + 8 technical support	17 + 8	17 + 9	13 + 8
Countries	2 (CH, DE)	3 (CH, D, F)	3 (CH, D, PL)	3 (CH, D, AT)

Figures of the last four EPR Projectathon

List of systems

There were twenty-eight systems registered at the EPR Projectathon, meaning that some of the participating firms contributed more than one system (see table 2). Most of the systems concerned Health Professional Portals, whereby it is notable that primary systems can reference the same actors as a Health Professional Portal.

Organization	System keyword	Components concerned
AD Swiss	CCC AD Swiss 1	Community Components
Association CARA	2ND SYSTEM CARA PMP	Secondary System
Avintis SA	2ND SYSTEM Avintis	Secondary System
Berner Fachhochschule - Medizininformatik	CCC BFH MAG	Community Components
Bundesamt für Informatik und Telekommunikation	GVT- SERVICES BIT BERN 2020	Governmental Services
CISTEC AG	HP-PORTAL CISTEC 20	Health Professional Portal
DH HealthCare Switzerland AG	HP-PORTAL Dedalus	Health Professional Portal
HCI Solutions AG	HP-PORTAL HCI Documedis	Health Professional Portal
Health Info Net AG	IdP_HIN_3.4	Identity Provider
Hôpitaux Universitaires de Genève	TOOL HUG eHealthConnecto r	Tooling
Hôpitaux Universitaires de Genève	2ND SYSTEM HUG SWISS- MEDS	Secondary System
Interact Digital AG	HP-PORTAL ARTS 4 2 2	Health Professional Portal
NEXUS Schweiz AG	CCC NX EPD-ENABLER	Community Components
openmedical AG	2ND SYSTEM OM M2U 202 0	Secondary System
openmedical AG	2ND SYSTEM OM MN 2020	Secondary System
Post CH AG	Community Post 4	Community Components
SECTRA MEDICAL SYSTEMS GMBH	2ND SYSTEM EIDMS SEC- EPD20-2	Secondary System
SECTRA MEDICAL SYSTEMS GMBH	2ND SYSTEM EIDMS 20-1	Secondary System
SECTRA MEDICAL SYSTEMS GMBH	2ND SYSTEM EIDMS EPD2 0-3	Secondary System
synedra Schweiz AG	2ND SYSTEM synedra	Secondary System
the i-engineers AG	Community TIE_HEC	Community Components

Participating systems, Projectathon 2020

Tests performed

Overall view

256 tests were executed during the fourth EPR Projectathon, of which 172 were verified.

	Number of test instances	To be verified	Partially verified	Verified	Aborted	Paused	Running	Failed	
Group tests	18	0	0	8	5	0	5	0	
Peer-to-peer-tests	191	3	12	132	21	2	20	1	
No-peer-tests	47	0	2	32	7	0	6	0	
Total	256	4	17	172	41	3	64	4	

Executed tests at EPR Projectathon 2020

Peer-to-peer-tests

The largest share of verified tests (about three quarters, 132 out of 172) concern peer-to-peer-tests with two testing partners involved.

	Number of test instances	Started	Completed	Paused	Verified	Aborted	Partial	Failed	Critical
213, 214, 215	2	0	0	0	1	0	1	0	0
CDA-CH-EMED	2	1	0	0	1	0	0	0	0
CH:ATNA	20	4	0	0	15	0	1	0	0
CH:CPI	6	0	0	0	5	0	1	0	0
CH:EMED	6	1	0	0	4	0	1	0	0
CH:HPD	14	3	0	1	8	2	0	0	0
CH:MHD	8	2	1	0	1	0	3	0	1
CH:PDQV3	17	0	0	1	14	1	0	1	0
CH:PIXV3	31	1	0	0	25	4	1	0	0
CH:PMIR	2	1	1	0	0	0	0	0	0
CH:XCA	2	1	0	0	0	0	1	0	0
CH:XDS	30	2	0	0	22	6	0	0	0
CH:XDS-I	10	1	0	0	5	2	2	0	0
CH:XUA	28	1	0	0	23	3	1	0	0
SVS	4	0	0	0	3	1	0	0	0
Total général	191	20	2	2	132	21	12	1	1

Executed peer-to-peer-tests at EPR Projectathon 2020



Testing venue

Group tests

8 of the executed tests were group tests where several test partners are involved. This allows realistic and complex scenarios to be simulated, for example the retrieval of a document by a health professional.

	Test Instances	Started	Completed	Verified	Aborted
HP_access_images_Patient_In_RC	7	1	0	3	3
HPProvidesDocumentForPatient	3	2	0	1	0
HP_gets_document_Patient1of3	2	0	1	1	0
MEDICATION_TREATMENT_CHANGE	1	1	0	0	0
HP_gets_document_Patient_2of3	1	0	0	1	0
TCU_Provide_Document_for_patient	4	1	0	2	1

Executed group tests at EPR Projectathon 2020. Columns with zero values (e.g. #TI paused or failed) are not indicated.

Other results

Reported issues

As an outcome of the testing performed during the EPR Projectathon, 40 Jira issues were reported concerning:

- Specs (5 tickets)
- Test cases (20 tickets)
- Tooling (15 tickets)

The issues reported are processed by eHealth Suisse or allocated to other parties (e.g. IHE Services Europe).

Maturity levels

The maturity of the profiles, metadata and exchange formats of the Swiss EPR is graded into five levels, depending on their readiness for testing (level 1, 2, and 3) or their verification at test events (level 4 and 5). Through the 2020 EPR Projectathon testing, the revision of all mHealth profiles (SMART on FHIR, IUA, PMIR, MHD and RESTful ATNA) were completed (level 3). They are now ready for verification through peer-to-peer testing or simulator tests. Meanwhile, the eMedication profiles CDA-CH EMED and CH EMED (on FHIR) were both verified (level 4). The Cross-Enterprise Document Sharing for Imaging

(XDS-I) profile completed its testing by reaching level 5. For the overview of the maturity levels of all EPR profiles, see the published document on the website of the EPR-Projectathon 2020.

Quality survey

A quality survey was conducted at the end of the EPR Projectathon. Nine people responded to it. The following is a summary of the survey's results:

Motivation: Vendors decided to participate to the EPR-Projectathon 2020 for various reason, among which eMedication and IHE norms were the most frequently named. Other reasons include solving issues which arised during the past year, testing with other communities, or the Mobile Access Gateway.

Satisfaction with registration and communication: Participants were generally satisfied with the registration process and were able to find relevant information in order to decide about participation. Vendors asks for more clarity in the communication, with measures such as clear deadlines, a single contact person for Gazelle, and fewer emails. The uncertainty around the format of this year Projectathon (on site or online) also caused some confusion for the Connectivity tests.

Satisfaction with technical infrastructure: Two third of the people found Gazelle intuitive enough and easy to use, which is an improvement from the previous year (only half). The participants complain about the number of manipulations required (choosing validator, number of logins), the way test partners are presented, the test structures, and the abundance of CAT-Tests. Proposed improvements are to integrate RocketChat in Gazelle, to automatically copy messages from the proxy into the test results, ease the way to find Validation-scheme and validate SOAP messages. An extension of the access hours to Gazelle would also be useful.

Three quarters of the respondents were satisfied with the tooling in the reference environment, although validation still creates problems regarding the specs, the SOAP messages, and the HTTP-Headers.

Test plan: Almost all respondents were happy with the new tests descriptions and the addition of mHealth FHIR mobile profiles and the eMedication profiles. Demanded improvements concern the support of CMPD, the selection of the right patient for each test, and a better communication during the group tests. A list of proposed partners for each vendors would be useful, as well as more but smaller tests.

Opinion on monitors and event management: The participants were less satisfied with the monitors's work (66,7 % "very efficient") and the event management (50 % "very efficient") than last year. One participant asks for more explanations and a better support for newcomers. The "contact tracing" lists felt like an unnecessary measure in the Covid-19 protection concept, as all participants had to announce themselves every morning. A participant also asks that the usage of Rocket Chat should be added to the "Rules of Engagement".

The participants appreciated the f2f format of this year, as it helps efficiency in testing and more networking between participants. Rocket Chat was also a plus this year.

Market readiness: According to the participants, 44,4 % of the tested products are ready to go on the market. A large share is targeting the market in less than six months (33,3 %) or one year (11 %). Compared to last year, more system are (almost) ready for market.

Catering and side events: The catering and services at the testing venue were very much appreciated and get seven (out of nine) ratings from 8 to 10 (out of 10). Also very popular, though with a few exceptions and on a lower level, were the location and the social event. 5 out of the 9 respondents participated at a "technical coffee break" and liked it mostly, although one participant found it too promotional. Also about half the respondent participated in the social event, at the Eventforum. Most of them liked it or really appreciated it.

General feedback: The participants appreciated the f2f format of this year, as it helps efficiency. Rocket Chat was also a plus this year. All responding vendors strongly regret that some key partners for the

testing (especially for registry and repository) were not or rarely present. This lack of partners raises question about future participation.

Suggested improvements: Proposal of improvements were mainly that Rocket Chat should be integrated in Gazelle, and that “big players” should attend the Projectathon to improve the quality of the event, and the number of tests the participants can do. A better communication of the test data and smaller tests are also suggested.



Public "Guided Tour"

Conclusion

Altogether, the three organising parties eHealth Suisse, IHE Suisse and the FOPH consider the EPR Projectathon 2020 **a successful event despite the current organisational challenges due to Covid-19**:

- The **goals** as described on page 2 have been **reached**.
- Compared to the three previous Projectathon, **a progress** could be observed, particularly concerning the eMedication and mHealth profiles, which were new for testing. The participating companies with their products as well as the reference environment tooling and the specifications have made an enormous development since 2017, making the test processes **run smoothly** throughout the week.
- The cross-enterprise document sharing for imaging (XDS-I) occupied most of the **group testing** and moved the specification to the highest level of maturity.
- Despite fewer participants, the vendors know well the functioning of the EPR-Projectathon and work well together, creating a small but efficient community.
- The number of the **reported issues** mainly concerned the newer specifications and **none were critical**.
- There were **fewer tests** than previous years, due to the lower participation this year, but they enabled the newer specifications, eMedication and mHealth, to move forward.
- According to the survey, the **participant's satisfaction** with the event was generally high, though the absence of certain firms was sorely felt.

Hence, the responsible parties make the following **conclusions regarding the further steps**:

- The technical basics for the **technical certification** of EPR communities proved to be ready, both in terms of underlying specifications and in terms of reference environment. The new specifications target the first technical improvement of the EPR, thus allowing vendors to stay on top of the coming developments.
- The Projectathon series will be continued to further enhance interoperability around the EPR system and attract additional vendors (e.g. primary systems). The **next Projectathon** will take place from 20 to 24 September 2021 in Bern. The focus of the test week will be decided at a later point. Possible topics are to further test eMedication, mHealth, and FHIR standards, as well as exchange formats, and to offer a support to primary systems for a deep integration of EPR platforms.
- Although there will be no EPR corner offered this time, vendors are still encouraged to participate at the **IHE Connectathon** to test the basic IHE profiles. The next Connectathon takes place from 2 to 6 November 2020 in Brussels and online.
- In addition, **online testing** is permanently available on the reference environment in Gazelle. Vendors should make use of this opportunity. The communication via the **Google group *epd_Projectathon*** will be continued. For people wanting to join, please [contact the group managers](#).
- According to the satisfaction survey, the organisers will keep most of the event elements **as hitherto** (e.g. venue, food, technical coffee breaks). **Changes to be considered** concern mostly the long term inclusion of Rocket Chat in the communication tools and the proposal of a wider choice of activities and specific training in order to attract more vendors, particularly partners in registry and repository.



Test floor