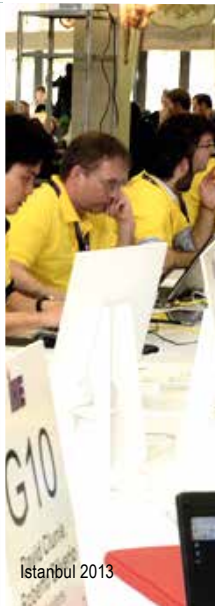




Bern 2012



Istanbul 2013



Vienna 2014



Luxembourg 2015



Bochum 2016



Venice 2017

# The IHE Connectathon. What is it? How is it done?



Bern 2012



Istanbul 2013



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Bochum 2016



Venice 2017

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## What is IHE?

**IHE** is a world-wide initiative that enables healthcare IT system users and suppliers to work together to enable interoperability of IT systems. It does this through:

- Careful definition of specific healthcare tasks (use cases).
- Identification of the information and processes required to support those tasks.
- Specification of the necessary information exchange using existing standards and the processing to be performed.
- Annual testing of supplier systems for conformance to the specifications in the **Connectathon** to show evidence-based interoperability.

Beginning in the Radiology Domain back in 1999 **IHE** has expanded into multiple domains and today ten Domains are covered, thereby ensuring system interoperability between suppliers and their systems on a very big scale and on an even larger world stage.

## Why the Connectathon?

The **Connectathon** gives vendors an opportunity to test the interoperability of their products in a structured and rigorous environment with peer vendors. It also enables the **IHE** Technical Framework itself to be tested in the form of trial implementation/deployment settings.

Participating companies test their implementation of **IHE** Integration Profile specifications against those of other vendors using real-world clinical scenarios.



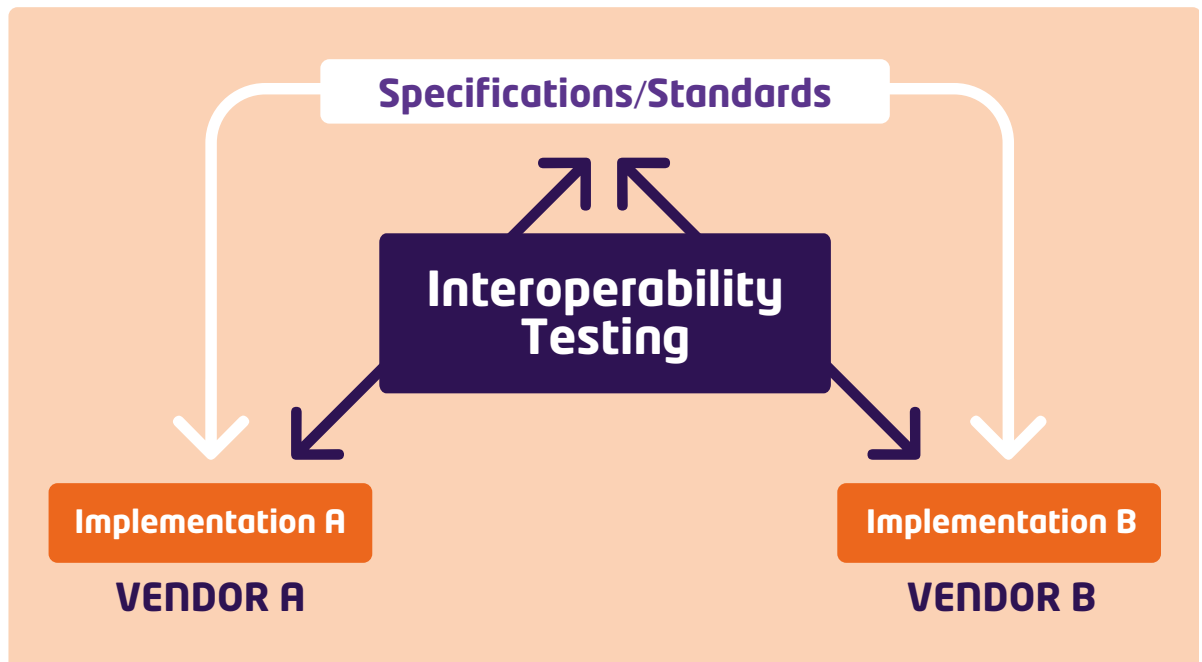
*“Connectivity of imaging informations in the era of digital radiology is mandatory and crucial. Interoperability of modalities and IT systems from different vendors is not self-evident. The most favourable approach to have positive experiences is using solutions which have been tested during an IHE Connectathon. Besides the more general eHealth solutions - covered by the IHE-XDS Profiles family - there is a lot ongoing for Radiology, e.g. the new version of the IHE Profile “Scheduled Workflow”, Report Templates or Radiation Exposure Monitoring (REM). The European Society of Radiology (ESR), supporting IHE as a sponsor, is following different strategic IT-related projects, e.g. Decision Support, Structured Reporting and esp. dose optimisation (EMAN-Project). As part of EMAN, the IHE REM approach is very relevant, but representation of products supporting REM is still limited. Therefore, more interest by vendors supporting these Profiles would be very helpful to radiologists. This would facilitate discussion at an IHE demonstration at radiology congresses in future.”*

**Dr. Peter Mildenberger**

IHE-Europe Deputy User Co-Chair, Associate Professor of Radiology, University Medical Center Mainz, Germany

## What is the Connectathon?

The **Connectathon's** objective is to test systems' conformity to **IHE** Profiles by using validators and the interoperability between systems or simulators. Clinical workflow is guidance for testing. **IHE** allows test validation in a controlled and neutral environment.



## The Connectathon is a Connectivity Test Marathon

- It allows week-long, face-to-face testing of the participating products' interoperability.
- Participants prepare and test with open source test tools and plans provided in advance.
- It encourages vendors, large and small, to work closely together to solve issues.
- Participants are allowed to correct non-conformities during the event.
- Hundreds of transactions are verified using both test tools and peer tests.
- Tests are recorded and outcomes validated by neutral Monitors.
- At the end of the event, successful vendors are registered in the **Connectathon** Results Matrix.
- There are sanity checks to see whether the **IHE** Profiles are clear enough and can be implemented consistently.



*"Our participation in IHE Connectathons is a key demonstration of our customer commitment to interoperability. Planning a Connectathon sets the pace for IHE-based interoperability innovations, whereas actual Connectathon presence and testing provides a great opportunity to validate latest software development efforts. Add to that the networking opportunities with other software vendors, even including competitors, and you have an industry event that is truly unique."*

**Harm-Jan Wessels,**  
Founder and CEO at Forcare



## Benefits for the Users of Healthcare IT Systems

- Reduces potential interoperability issues on site.
- Qualifies vendors who have invested in proving their products support **IHE** Profiles.
- Facilitates decision-making for tender responses from competing vendors.
- Saves money and inconvenience through qualified vendor stipulation.
- Gives confidence to the procurement process and subsequent deployment.
- Flags vendors who have been through **Connectathons** and peer group reviews.

## Benefits for the Company's Product Development of Implementing and Testing IHE Profiles

### Specific Benefits

- Reduced development cost and time-to-market by implementation of one connectivity method.
- Accelerated testing through the **Connectathon's** structured and supervised testing environment. Minutes of testing can save months of in-company effort on the question: **Have we correctly implemented these IHE Profiles?**
- Independent product testing by qualified test specialists and proven test tools ensures product quality and drives down implementation cost.
- Ensures your products continue to meet the expanding base of **IHE** Profiles.
- Facilitates comprehensive interoperability tests with many peers in the industry. This allows for better preparation and avoids system integration at customer sites.

### General Benefits

- **IHE** Profiles enable seamless and secure exchange of health information for both providers and patients across the globe and provide access to a world-wide eHealth market.
- Successful vendors are registered in the [Connectathon Results Matrix](#) →.
- You can demonstrate market leadership in the industry on interoperability feature adoption.
- Networking opportunities with industry leading professionals during the week-long event.



*"As for Arsenà.IT the collaboration with IHE is chiefly important in the development of the Fascicolo Sanitario Elettronico regionale (regional Electronic Health Record) project. We can apply international standards and know-how such that they easily drop in to designing and planning solutions, reducing the time gap of implementation by applying solutions recognised at an international level.*

*In this context, the Connectathon represents a chance for Arsenà.IT to enhance our know-how as regards test and labelling mainly for our associated members, all the 23 public local Health Authorities and Hospital Trusts of the Veneto Region. Indeed, having the chance to discuss and collaborate with suppliers with a wide experience in implementing standards at an international level guarantees to set up our working method in a better way, providing the best solutions in a shorter time".*

**Claudio Saccavini,**

Technical Director of Arsenà.IT, Veneto's Research Centre for eHealth Innovation

- The ability to gain deep insights from world leading experts on **IHE** Profile requirements.
- Enhance credibility about **IHE** Profile implementation competency towards customers when you register your products in the **IHE Product Registry** →.
- Country, region and hospital tender procedures increasingly demand independent demonstration of **IHE** Profile implementation competency.

## Overall Industry Benefits

- VIP tours of the Connectathon floor together with industry leaders.
- Event that is recognised among the international healthcare community.
- Shared experiences with over 350 of the industry's top professionals on site.
- Demonstrates industry uptake of interoperability features.
- Being part of the emerging healthcare consensus in standards and interoperability.
- The greater the number of vendors participating, the better the standards of interoperability in the market place between vendors, leading to enhanced benefits for patients and healthcare staff.

## Which IHE Profiles will be Tested?

- Those Profiles for which the vendors have registered.
- Sometimes sponsoring organisations and vendors work together to specify Profiles that should be tested.
- Vendors may select the Profiles they want to test.
- Every year **IHE's** international team of experts develops new Profiles which are available for testing.
- In 2018 IT Infrastructure, Radiology, Cardiology, Patient Care Coordination, Pathology, Laboratory, Pharmacy, Patient Care Devices and Eyecare will be the featured domains.
- Relevant **IHE** Profiles which are used in "user and buyer" communities and reflect the challenges in eHealth will also be available for testing.



*"Hosting the European IHE Connectathon 2016 was a great challenge and made us very proud. For over 13 years IHE-Germany has concentrated on the deployment of IHE Profiles and concepts in a number of Healthcare IT environments. The Connectathon in Bochum (April 11-15, 2016) gave all vendors and providers in Europe a centralised place to test their products and solutions as well as the opportunity to come together and connect within the largest European community in healthcare interoperability. It was a great event that pushed the healthcare IT markets in Germany and across Europe."*

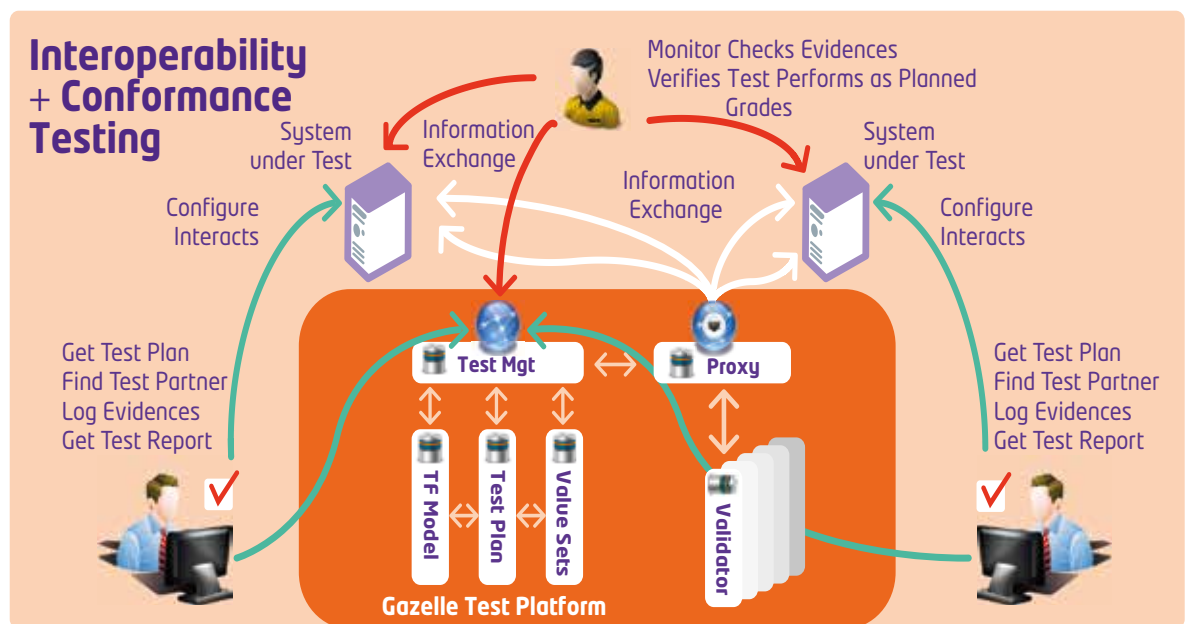
**Alexander Ihls,**  
Vendor Co-Chair (IHE Deutschland e.V.)

## How are the Tests Performed?

The **Connectathon** test platform using test management software system is called **Gazelle** →. Essentially, there is a variety of tools, e.g. validation tools, to verify that messages/documents are in conformity with specifications as well as simulator tools to test the interoperability of an application, not as a reference implementation but as a controlled test case.

During the **Connectathon**, testing is performed using the **Gazelle** Test Bed. The **Gazelle** suite of tools provides **Connectathon** participants, Monitors and the management with the tooling to run the event. Participants share configurations, samples and identify test partners through the **Gazelle** test management tool. The tool provides them with a list of tests to be performed and enables them to log evidences of the tests performed. Participants are free to run the test at their own pace.

Monitors, who are subject-matter experts, verify each test. As for the participants, they have the ability to check the conformance of the exchanged messages that are most critical, using validation services. The Management Team is provided with indicators that allow them to monitor the testing progress and grade the participants.



Please check our videos of some past **Connectathons** in [Barcelona](#), [Bern](#), [Istanbul](#). More details can be found on the [Connectathon website](#).



*"The NHS in England has long been a supporter of the use of standards in healthcare IT, particularly in the areas of interoperability and terminologies like SNOMED CT. Under the Health and Social Care Act 2012, NHS England has dedicated powers in terms of approving information standards, which enables these to be mandated for use. There is also a requirement for open and transparent consultation, and robust and tested implementation plans to ensure the information standard is fit for use in the English health and social care system. Activities that add value to and demonstrate compliance with this requirement should be supported where practical."*

**Kathy Farndon,**

Head of Health Information Standards and Governance, NHS England, UK

## The IHE Connectathon Test Process

### IHE Community - A Networking Opportunity



The **Connectathon** is a forum where vendors and their technical specialists can exchange implementation experiences and where participants effectively share samples – for example radiology images and HL7 CDA documents. These will be checked for conformance to **IHE** Profiles using the validation software. It is common for engineers to discuss their own technical issues and to work on the fly with engineers, often from competing organisations, but without commercial pressure. Even though all of them are committed **IHE** members, none of them are commercially aligned. They have many years of experience, often in a commercial environment.

The desire to succeed is the spirit that is present amongst all participating vendors. The Monitors are not looking to fail anyone, and the “help-each-other-mentality and stay-until-it-works-mentality” are paramount amongst those present. After all, problems one vendor may experience today may invariably arise for another vendor tomorrow.

There is also the opportunity to meet other experts involved in European projects, e.g. [epSOS](#), [eHGI](#), Trillium Bridge, [Antilope](#), [EURO-CAS](#).

It is important to recognise that the work is done on a Domain-specific basis and in Domain-specific sessions, where Monitors with Domain experience are using their skills, experience from previous **Connectathons** and expertise in their own field to bring success to all.



*“Semantic interoperability is of utmost strategic importance for Deutsche Telekom Healthcare Solutions. Therefore, we decided to develop a platform that is strongly oriented on IHE Profiles like XDS.b, PIX/PDQ and others. After we tested our eHealth Composite (eHC) platform successfully at the IHE-Europe Connectathon we can assure our customers in their decisions to build new services with interoperable interfaces. Our participation at IHE Connectathons and the usage of HL7 CDAs ensures our offerings are future proofed.*”

**Dr. Axel Wehmeier**  
Speaker of the Management Board, DTHS



There are approximately 60 Monitors trained in dedicated sessions each year. Whilst the Monitors are there to help, they are also totally independent and objective in their decisions. Ultimately, they have to carry out testing checks that are a pass or a fail.

Monitors are assigned to tests based on their own competencies and skill set. Vendors have to convince them that the work they are effectively grading is soundly based; successful vendors will always have their logs ready to run, replay and replay again if necessary.



**2017 Connectathon Monitors with Eric Poiseau, IHE-Europe Technical Manager.**

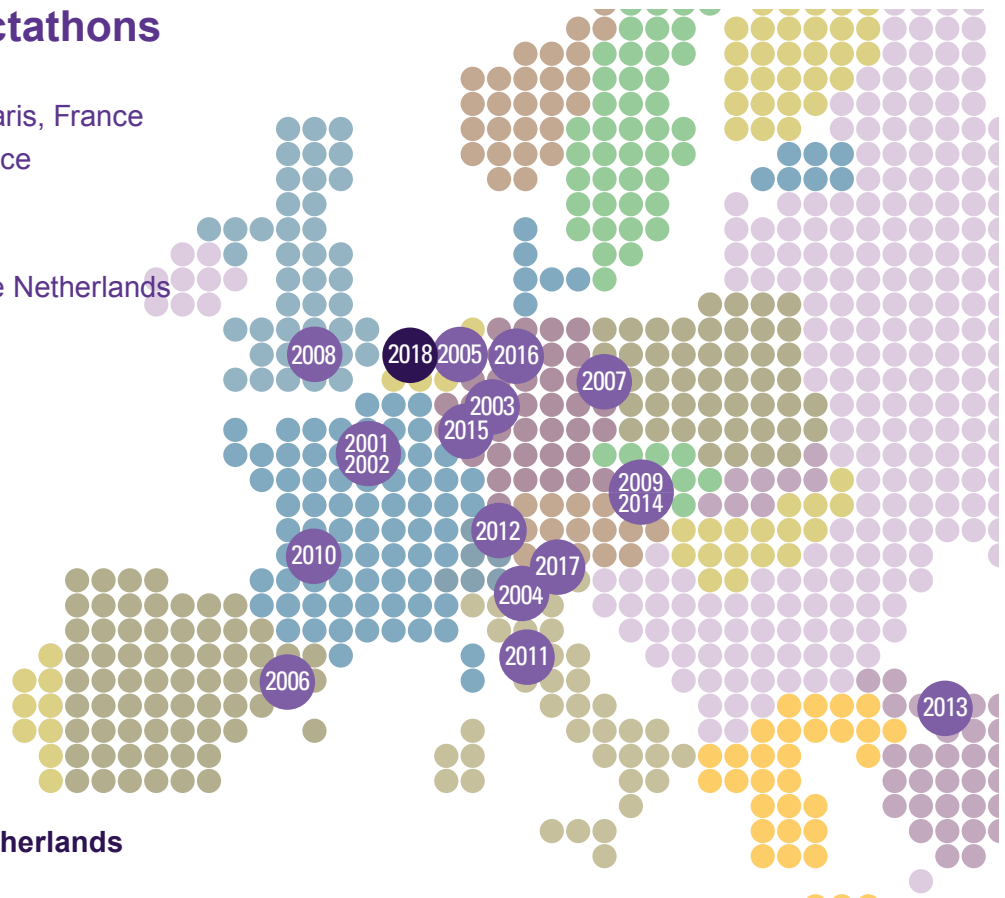


*“ELGA GmbH is responsible for the introduction and implementation of the electronic health record (ELGA) in Austria and has relied on IHE standards since 2007. Due to the federal organisation of the healthcare system in Austria, ELGA is designed as a distributed system with central components for patient and healthcare provider identification and authorisation management. The core building blocks are composed of numerous IHE XDS affinity domains containing the health records and some central components like the master patient index, the healthcare provider index, the access control system and the citizen portal. Communication between the core components strictly follows the rules of IHE Profiles, whereas the communication between the affinity domains and the systems at the point of care (hospital information systems etc.) today is still proprietary. The Connectathon 2014 in Vienna provided the perfect testing ground to prove interoperability according to IHE Profiles. Companies which had successfully participated in a Connectathon had a competitive advantage as IHE compliance is increasingly regarded as a success factor in calls for tenders.”*

**Hubert Eisl,**  
Managing Director ELGA GmbH, Austria

## European Connectathons

- 2001: Charenton-le-pont Paris, France
- 2002: Villejuif in Paris, France
- 2003: Aachen, Germany
- 2004: Padova, Italy
- 2005: Noordwijkerhout, The Netherlands
- 2006: Barcelona, Spain
- 2007: Berlin, Germany
- 2008: Oxford, UK
- 2009: Vienna, Austria
- 2010: Bordeaux, France
- 2011: Pisa, Italy
- 2012: Bern, Switzerland
- 2013: Istanbul, Turkey
- 2014: Vienna, Austria
- 2015: Luxembourg
- 2016: Bochum, Germany
- 2017: Venice, Italy
- 2018: The Hague, The Netherlands



## Results Registration in the Results Matrix

**IHE** communicates the vendors' participation in **Connectathon** at the company level.

**IHE** will register and disclose the **IHE Profiles**, actors and options that have succeeded at the **Connectathon** in the **Connectathon Results Matrix** →.

Vendors who tried and learned during the **Connectathon** week that more thorough implementation work is needed to succeed are encouraged to participate again next time and to undertake more dedicated trialling beforehand. **IHE** will not disclose any failures to comply.



*"IHE Connectathons have been useful for us in three different ways. First, as a national healthcare IT player, it is crucial for us to closely follow the development of the latest standards and application guides. IHE Connectathon results help us estimate the maturity levels of different IHE Profiles, their current momentum and future potential. Second, while evaluating software acquisitions for our needs, it is important for us to study the Connectathon history of different software vendors. And finally, we can participate in Connectathons ourselves as a national implementer of healthcare IT services - we did just that twice while developing the Finnish epSOS NCP (national contact point). It's been an amazing experience, both as a good start for testing our implementation against NCPs of other countries, and as a socially important event, with side activities and meetings with other projects and communities, often present close to the Connectathon venue."*

**Konstantin Hyppönen, PhD**

IHE Finland Co-Chair, Senior IT Specialist Kela, Kanta Services Finland

## IHE Integration Statements and the IHE Product Registry

Vendors publish “**IHE integration Statements**” to declare the conformity of their products to specific **IHE** Profiles. Participation in the **Connectathon** will, of course, greatly increase the vendor’s credibility when these **IHE** Integration Statements are created for their products.

A template of an **IHE** Integration Statement is available at: <http://tinyurl.com/62ymvtc>.

The **IHE** Integration Statements are intended to be made public on the corporate website of the vendor. Potential customers of products with implemented **IHE** Profiles can easily search for vendors and products in the **IHE Product Registry** →. Vendors are encouraged to enter their available, released products in this registry with an **IHE** Integration Statement. It can be linked to the **Connectathon** where the vendor’s capability has been demonstrated.

## IHE Domains with their Solution Profile Specifications

**IHE** is organised by clinical and operational Domains. In each Domain, users with clinical and operational experience identify integration and information sharing priorities, whereas vendors of relevant information systems develop consensus and standards-based solutions to address them.

Each Domain includes a Technical Committee, whose primary task is developing and documenting the solutions (known as Integration Profiles), and a Planning Committee, whose primary tasks are long-term planning and organising deployment activities (such as testing events and educational programmes). Each Domain develops and maintains its own set of Technical Framework documents. Coordination among the Domains is the responsibility of the Domain Coordination Committee, comprising representatives from each of the Domain Planning and Technical Committees.

**The official and complete IHE Technical Framework documents are available at:**  
[http://www.ihe.net/Technical\\_Frameworks](http://www.ihe.net/Technical_Frameworks).



*Participation in IHE and to IHE Connectathons are both key elements in Dedalus’ international interoperability strategy. Dedalus strongly supports international standards and the value of the Connectathon is tangible in the product design, development and testing as well as in proving our interoperability capability to our clients. Dedalus is operating in a variety of settings and markets worldwide and IHE and the Connectathon is a valuable tool to help communicate with users and decision-makers on the value of interoperability. Connectathons are seen by our partners, clients and users as a way to effectively deploy interoperability products that work and thus greatly reducing deployment risks.*

**Lapo BERTINI**

IHE-Europe Deputy Vendor Co-Chair, Business Manager of Dedalus Healthcare Systems Group, Italy

## Connectathon Registration Process



Further event information can be found [connectathon.ihe-europe.net](http://connectathon.ihe-europe.net)

**Here you find a short summary of the registration process:**

**Identify  
the list of  
actors and  
Profiles that  
you wish  
to test**

- Create an account on **Gazelle** → (only if do not already have one)
- Update organisation information
- Register system information
- Copy and start with systems from previous sessions
- Print and send the contract
- Your registration is complete when the payment has been confirmed and the Project Manager has received the contract
- Webinar for participants – watch for details
- Limit for log return – watch for details
- **Connectathon in The Hague, The Netherlands 16-20 April, 2018**

Do not wait **until the last day** to register your system and your participants

Registration  
opens on  
**1 December,  
2017**

End of  
registration on  
**15 January,  
2018**

Payment  
deadline on  
**28 February,  
2018**

- Links**
- [Connectathon Results](#) →
  - [Documentation](#) →
  - [IHE Integration Statement Template](#) →
  - [IHE Technical Frameworks](#) →
  - [IHE Success Stories](#) →
  - [Link to Product Registry](#) →
  - [Support](#) →





## What's after the Connectathon? Introducing the IHE International Conformity Assessment Program

Any vendor looking for a formal test report that is accepted world-wide, should sign up for the IHE Conformity Assessment that provides increased testing rigor based on an ISO/IEC 17025 Quality System in accordance with the IHE International Conformity Assessment Scheme.

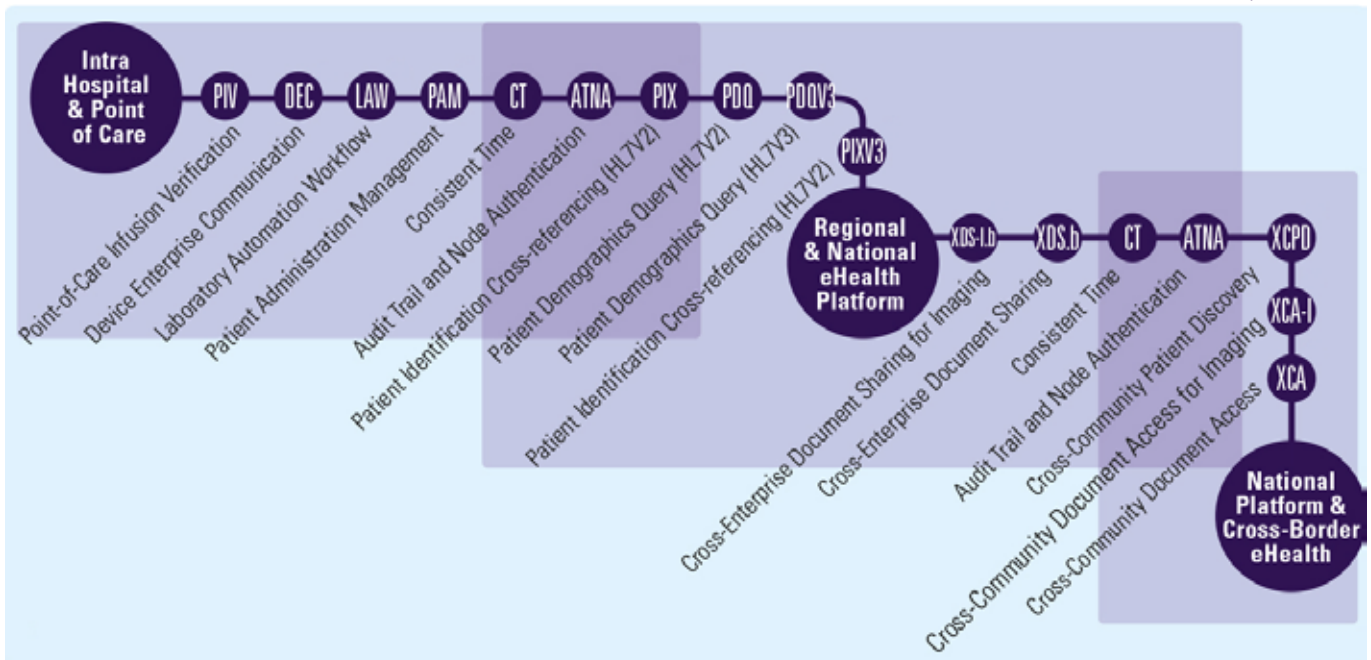
For details, see <http://ihe.net/Conformity-Assessment>.

### The IHE International Conformity Assessment program

- is open to all products available on the market at time of application or expected to be released within six months
- is open to any vendor who already passed the IHE Connectathon tests for the selected profiles
- provides a striking range of integration profiles to choose from, perfectly complementing Connectathon testing
- testing will be performed by a ISO/IEC 17025 Accredited Testing Laboratory which will publish a Conformity Assessment Report on the [IHE International website](http://ihe.net).



ISO/IEC 17025



To apply now for Conformity Assessment testing, please contact:

**Alexander Berler**, IHE-Services Sales & Partners Director

E-mail: [secretariat@ihe-europe.net](mailto:secretariat@ihe-europe.net)

