Report DTL Partner Advisory Committee meeting
June 10th, 14h00 – 17h00
Hosted by SURF, Offices Hoog Overborch (Hoog Catharijne), Moreelsepark 48 te Utrecht

Partner representatives: An overview of all Partner representatives can be found in Annex 1.
Changes in attendees: Carole Huizing (Euretos), Hans de Hart (Digeketen), Walter Pirovano (Baseclear)
Not attending: Berry Kriesels (Omnigen), Ad Thiers (AT Computing), Jos Lunenberg (Genalice), Marten Smidt (Unv. Of Amsterdam), Astrid Engelen (IOS Press), Jorn de Haan (Genetwister), Wilco Hazeleger (NLeSC)
Representative DTL Board: Karel Luyben
Speakers: Anwar Osseyran (SURF), Rolf Bos (TIFN/Friesland Campina), Marijana Radonjic (EdgeLeap), Inge Schats (AT Computing)
Representatives DTL team: Jacintha van Beemen (report), Luiz Olavo-Bonino, Mascha Jansen, Femke Francissen, Barend Mons, Merlijn van Rijswijk, Ruben Kok,

1. Opening by Ronald Stolk, chairman of the DTL PAC
a. Short introduction of new partners (Annex 1)
Ronald Stolk welcomes all attendees; there is a short round of introduction of attendees with a special welcome to the new partners. There is a small change to the proposed agenda, the DTL update (previously 3a) will be given after the updates by Rolf Bos, Marijana Radonjic (previously 3b) and Walter Pirovano (previously 3c).

b. Welcome and introduction to SURF, host of this meeting (Anwar Osseyran)   Exhibit 1
Anwar Osseyran welcomes all to SURF, and gives a short introduction of SURF and its services. He is convinced that suppliers and customers need to work together in order to make a better future and he is pleased to see so many organizations convene in DTL.

A short introduction to SURF; SURF is a cooperative association among many parties in the NL, among which all universities, many technical schools, medical centres, research institutions, libraries, etc. Under the SURF holding there are three companies (SURFnet, SURFmarket, SURFsara) and an independent foundation (Netherlands e-Science Center).

SURFnet focusses on state of the art, high end to end network, as well as trust, privacy, identity infrastructure security. SURFnet has over 1M users in the NL and takes part in GEANT (European network infrastructure).

SURFsara focusses on high performance computing. Big data, data computing, data stewardship and analytics, discovering how we can learn from available data in research and innovation. Another hot topic is evidence based learning, where the boundary between education and research is blurring. A new direction is federation of local facilities with central facilities, bringing together the producer and consumer. SURFsara is a member of PRACE (European supercomputing e-infrastructure).

SURFmarket provides a facility to drive collaborative contracts among SURF partners in education and research. It is a market place for higher education, does negotiations for purchasing power for people working in education and research like brokering services for cloud services and negotiations to support libraries and providing e-books for students.

SURF in Life Sciences: focusing on large cohort of studies, SURF supports the field with high-end infrastructure. Delivering experts and expertise in various domains like ICT infrastructure, connectivity data, and public-private collaborations. SURF was one of the first members of DTL, supporter of the FAIR approach and participating in ELIXIR-NL. SURFsara has several project collaborations in the biomedical area, such as CTMM-TraIT, BBMRI-NL, and NFU Data4lifesciences, MinE (project on ALS) and a project with Philips. On behalf of the VSNU, SURF has established the National Coordination Point Research Data Management in order to facilitate nation-wide exchange on data management across science fields (data facilities, data infrastructure, facility requirements, legal issues and ownership, financials, etc). Anwar Osseyran stimulates all parties to get involved, profit and non profit, in order to together work on a better future.

Question from Walter Pirovano (Baseclear) – is SURF also accessible for SME's?
Answer Anwar Osseyran – SURF is a semi-governmental organisation and is funded by the government, which binds the organisation to pre-competitive support. But the SURF network with service providers is willing to do technology transfers.

2. Report of the 3rd meeting of the DTL Partner Advisory Committee (Annex 2)
The report is accepted without modifications. Ruben Kok explains that several action points are running. One important learning point during the last PAC meeting has been the presentation of Alain van Gool about organising the Radboud Technology Centres. Meanwhile, Alain van Gool has been attracted as tech-lead in DTL to help develop the hotel approach.

Actions:

A20150522-3	Make an inventory among the partners of key datasets that could be made FAIR	Ruben Kok & Barend Mons	Summer 2015
Pending, on the agenda of this PAC meeting			
A20150522-4	Define next steps in establishing a federated ICT and data infrastructure that fits the needs of, and has ownership in the collective life science fields.	Ruben Kok and Anwar Osseyran	Ongoing
Ongoing, part of GO-FAIR/European Open Science Cloud process, of NL Roadmap and Health-RI			
A20150522-6	DTL will facilitate document sharing among the partners and a discussion platform and set up a system for this	Ruben Kok	Coming period
Link to documents provided, presentations have been added there as well. We will try to find a system for document sharing among partners that is available to all partners.			
A20151113-1	Collect data management plans among DTL hotels to be used in working out a generic Data Stewardship approach	DTL team in communication with DTL hotel owners	Coming period
On the agenda of this PAC meeting			
A20151113-2	Assemble the collective input from the partners to the enabling technologies programme set-up and communicate the requests as advice to ZonMw/NWO on behalf of the full partnership (speaking with one voice).	DTL team in communication with DTL hotel owners and ZonMw/NWO	Coming months
This has been communicated with ZonMW, Alain van Gool will give a short update during this PAC meeting.			

A20151113-3	Translate input from partners to tangible activities as part of the 2016 DTL programme	Ruben Kok	Coming period
Ongoing activity			

3. DTL developments

a. Emerging collaboration Topsector Agri&Food (Rolf Bos; TIFN/Friesland Campina)   Exhibit 2
Rolf Bos presents what the Topsector has been doing together with DTL, taking Topsector Agri&Food into the era of professional data management. Aligment on data management is an important issue; diet quality, food security, social economic aspects, consumer trust, new technologies producing an enormous amount of data. We need a different view on how to use and combine these data for innovation. There are a few priority areas for the Agri&Food sector in terms of Science: objective measurements, seamless integration with life style, building on expertise and build cross-functional leadership, and create knowledge from data. Together with Edgeleap a questionnaire was designed on how companies and scientists in the Agri&Food sector use data and results are shared during the next presentation.

A&F data survey: Marijana Radonjic (EdgeLeap)   Exhibit 2
Marijana Radonjic explains how EdgeLeap helped Topsector Agri&Food and DTL to create knowledge from data. EdgeLeap was happy to find that DTL is practicing what they preach by first ask parties what is their current status, what are your current capacities, what does DTL need to support you to see the opportunities that come out of data driven approaches.
The goal of the survey was to address four different aspects: i) characterize organisations; ii) assess the current status of their practices; iii) current access to capacity, what do they need in terms of support; iv) vision on the future, strategies, opportunities, etc.

i) characterize organisations
Response profile: most responses from computational scientists from industry and academia.
Research topics: crops/seeds, nutrition, health, animal feeds, bioinformatics. Data management is seen as a nearly essential aspect within the organisations in all areas but most in the crops area.

ii) assess the current status of their practices
Public repositories for array expressions, proteomics, metabolomics, genomics, genetics are mostly known and mostly used among stakeholders. Academic researchers regularly share their data with public repositories, while at industry this is at a lower level.

iii) current access to capacity, what do they need in terms of support
We asked if people need more expertise and support, training. About 80% of the stakeholders seek for help in dealing with data management issues. Academia prefers to work with academia, industry prefers to work with service providers. Only a few stakeholders report that they can do everything in house (mostly academia).

Community involvement: asked about knowledge on and involvement in major data centre initiatives in systems biology, bioinformatics, large data collections. Most of these initiatives are still in the 'grey zone', this is hopefully moving forward in the coming years. ELIXIR and BBMRI are most known. There is still quite some work to be done in the familiarity of initiatives and DTL can easily make a change there.

Support needed: most of the support and guidelines is/are needed in data storage, analysis and data

interoperability and in policies on data storage and analysis. People indicated they need policies based upon good use cases and by best practices rule out guidelines/manuals/standards.

iv) vision on the future, strategies, opportunities, etc.
We nearly all agree data is a top priority, reflected in what we are doing today and what we are willing to invest in in the future. More than half of the respondents will increase their investments in data management, this is much more the case in industry than in academia.

Ready to spend money on: in academia there are investments in infrastructure and data storage, in industry a balanced investment in all types of aspects, of which increasing people capacity is one of the largest.

Three top challenges: a) lack of standards, b) difficulty integrating diverse data from different resources, c) lack of communication between statistical data scientists and life scientists.

Actual knowledge that can be derived from this survey: almost all see integration & interoperability is important, large motivator, nevertheless people still need support and could use some help in it and see it as a major challenge.

Communication gap: we need people who understand IT infrastructure, hardcore (bio)informaticians who know how to deal with data, engineers to programme code, biologist who know why this is needed and people who can talk to management. DTL as a platform could help to bridge gaps among these groups.

Interesting is that major motivators to invest are all still very technology driven. End user perspectives like investing to make healthier products, or speed up processes, or see what to invest in next year, or increase return on investment, those got really low score in the motivation. This is low-high-hanging fruit, economic impact, social benefits. We therefore need communication cross disciplines; raise awareness about the paradigm shift in how we approach these problems and how we translate it into application.

Other low hanging fruits: organise demonstration events, build a network of trainers, and promote data policies.

Questions about the survey outcome can be asked to Ruben Kok, if you would like to help 'navigate from the lower to the upper hanging fruits', please contact Marijana Radonjic.

DTL will make results of survey available to the partners: **Action 20160610-1.**

Questions/remarks
Barend Mons: ZonMw announced they are going to request a data stewardship plan. When filing your project, you are obliged to give a name of the person in charge of data stewardship. ZonMw agreed upon giving DTL all these names, those are the people we can train, to fill these gaps. The assistance part of DTL is extremely important, DTL can have an added value here.
Rolf Bos: ZonMw is Health field -- Agri&Food is not at this stage yet but it is a good idea to make that obligatory for the projects in our field as well.

Rob Fastenau (TU Delft): We have a bioinformatician from a seed company and IP related questions are very sensitive. There is much understanding on how to create a better tomato with better DNA

but working with academia on such a subject is a no go area. We have to work through the tree of fruits and indeed address the low hanging fruits to get to the economic and societal part.

Anwar Osseyran (SURF) sees a lot of similarities between Top Sector Agri&Food and Health Care and Energy where there are also issues of data exchange and business models. Many generic issues (e.g. resource management) are tackled and discussed on a national level in the Landelijke Coördinatiepunt Research Data Management.

Anwar has anther question regarding the level of looking for a 'business model'. Most models are on "micro level" (one company/organisation) while in many cases the real business model is on a regional, community or even on a national level. This is the level where DTL acts. How do we tackle this one? Marijana Radonjic (Edgeleap) is lobbying a lot at all levels to make this process from low hanging to high hanging fruit as efficient as possible. There is a lot of work to do and we should do this together.

b. Building an industry platform in DTL through collaboration with BIUP; Walter Pirovano (Director bioinformatics at Baseclear)

Walter Pirovano is involved in the Bioinformatics Industrial User Platform (BIUP) since two years. BIUP is planning to liaise with DTL. BIUP is an open platform for companies that have an interest in bioinformatics, started in 2010. It has been started to have more informal discussions between companies. It has three pillars; research and development, education and infrastructure.
BIUP has been organizing industrial sessions during annual NBIC/BioSB conferences in Lunteren, focus meetings combined with company visits and BIUP has been in contact with DTL on education topics. Meetings are low profile; parties do not need to be formal members.

Currently BIUP is organized by Walter Pirovano, Antoine Janssen (Keygene) and Emiel Ver Loren van Themaat (DSM), but due to lack of time it is difficult to further professionalise this platform. There have been discussions with Ruben Kok about how we can strengthen forces in order to create better interaction. Joining DTL may open new perspectives for companies to participate in DTL-related activities.

In practice BIUP will become a community of bioinformatics experts in industry, which will be affiliated to DTL as a part of the DTL industry platform. BIUPs will continue to organise informal discussions between companies. There is no obligation for attendees to become a DTL partner. However, BIUP will encourage its network to become involved in the DTL partnership. BIUP may become a consultative group (klankbord) where advice from industry on specific topics of interest may be provided to DTL. DTL will support BIUP in organizing activities by helping out with logistical issues. For more information, please visit: http://www.dtls.nl/community/interestworking-groups/biup/

Ruben Kok invites all to have a look at the activities that are organised by this framework. In DTL we focus on modes of working together. This is a very nice way of cooperating because it is light-weight and it may help to filter out important topics important to the industry field. The DTL Industry Platform will be wider than bioinformatics. Companies that do not feel at home in the bioinformatics field are invited to think about organising other activities focussing on other topics that fit in DTL.

c. Short DTL update (Barend Mons, Alain van Gool, Jaap Heringa & Ruben Kok)   Exhibit 4
A combined DTL update presentation is held by Barend Mons (Science lead DTL Data), Alain van Gool (Science lead DTL Technologies), Jaap Heringa (Science lead DTL Learning) and Ruben Kok.

A few highlights:

DTL Data: GO-FAIR/Open Science Cloud
Barend: Earlier this year, the FAIR principles have been published, and already FAIR is being adopted world-wide, also by science funders. The European Open Science Cloud that is being prepared in Brussels takes FAIR data as a key perspective, and apart from a 2 Billion € investment in the EOSC, Brussels is going to demand data from H2020 (and future programmes) to be made FAIR. On average 5% of research grants will become available for data management and stewardship. In DTL we will continue to work towards building collective data stewardship support for the broader life sciences, and include the research data management coordination programme of SURF that overlooks all sciences. The inventory of interesting data resources to be made FAIR, as discussed earlier, will be made part of this programme, and of the ELIXIR-NL developments.

Barend also gives an update on the GO-FAIR national icon application at the Dutch Ministry of Economic Affairs; Ruben has sent around information regarding this proposal by email. The plan is essentially to build a global network of FAIR Implementation Labs and to start the first one in the NL with the partners. In line with this, we are preparing an effort to kick-start the European Open Science Cloud from the Netherlands. This will take shape in the next months, and partners will be informed next time.

DTL technologies: Hotels programme
Alain van Gool: The DTL Scientific Advisory Committee advised to work towards an integrated approach to the DTL Data, Technologies and Learning activities as they are inter-dependent. We will work towards a collective (FAIR) data stewardship approach and invite the partner hotels to give this shape together. We will do this progressively, starting with e.g. the proteomics hotels (cf. A20151113-1). Also, we will map DTL facilities to the major infrastructures of the international ESFRI roadmap, so that they may more easily become linked to the Dutch nodes in e.g. ELIXIR, EATRIS, BBMRI, INSTRUCT and EURO-BIOIMAGING.

DTL Learning
Jaap Heringa: The DTL Learning activities take shape in various forms, and bring together training initiatives in Dutch communities, aligned with those in the international field (e.g. ELIXIR). Many of the current efforts focus on the data side: bioinformatics and systems biology in collaboration with the research school BioSB; good database and software 'carpentry' with ELIXIR, NLeSC and SURF. The scope of DTL Learning is to get a much broader coverage. Please help us to get a comprehensive DTL course overview by adding your courses to the DTL website via http://www.dtls.nl/courses. And we are actively looking for partner representatives who want to put some time and effort in further shaping this programme.

DTL overall: platform to access partner services & tools
Ruben: DTL is piloting a services platform to make the world aware of tools and services provided by DTL partners. We have started this with Euretos, by providing access to the Euretos Knowledge Platform for non-commercial use. DTL does not offer support here, just the platform to present partner tools and services. Further in house interest should be dealt with directly with the particular owner of the tool/service. In this way we try to assemble a number of services for the DTL community to play around with and test their usefulness. All partners are invited: if you have a tool

or service you would like to share, please get in touch with DTL.

Health-RI initiative
Ruben: January this year, the Health-RI proposal has been sent to the KNAW and has been well received. With a selection of of other visions Health-RI will be published on the KNAW agenda later this year. Health-RI is foreseen as the Dutch national infrastructure for personalized medicine and health research. The proposal provides a vision and the roadmap how to get there in 2025. In this roadmap it is important to combine life science, technology and computer/ data science fields.

Several groups in DTL have been very instrumental in working towards this vision, that also works towards strong alignment of nation-wide infrastructure initiatives that are currently still separate (in biobanking and (clinical) data collections, imaging omics, data collections, …). Health-RI has been spotted by the Dutch Roadmap Committee (NWO) as a goal for the broader health field. The infrastructure cannot be built from one single source of funding. A Health-RI meeting is in preparation for December 1st, where the initiative will be presented.

NB: A message to all partners that are not involved in the (broad) health field: Health-RI fits in DTL, but DTL is broader than Health. From DTL's perspective, Health-RI is a typical model to grow towards a collective and connected infrastructure. The model can be very interesting for other fields of life science as well.

DTL will provide partners with information regarding this initiative in the coming future (**Action 20160610-2)**.

d. General exchange

Jos Beaten (CWI) – Is there an involvement in the Personalised Medicine track of the National Science Agenda (NWA)? Alain van Gool – Yes, we are closely involved in the preparation of that route, connecting the NWA to Health-RI, and vice versa.

Ronald Mooij (TNO) – asks for an update on Commit2Data.
Barend Mons & Ruben Kok: COMMIT2Data takes shape as a function of the availability of funding within NWO, and as a function of private interest in co-funding. Topteam ICT would like to work towards a COMMIT2Data4Life pillar, but so far it has been difficult to aggregate this into a programme with industry. For Health, ZonMw has indicated they would like to try and work towards a collaborative programme, but this will need to be part of the LSH Innovation Contract (not before 2018). Barend spoke to René Penning de Vries early this week. He is supportive to the development of a data science programme in the life sciences fields, and to the development of the GO-FAIR approach. He has asked Erik Fledderus (SURF) to assist in the GO-FAIR process.

Anco Molijn (DDL Diagnostic Laboratory) – Question related to the Health-RI initiative – As a company with an interest in the genomics and genetics side, one of the major health themes will be the microbial influence on human health, with a call for microbiomics apprioaches. This comes with enormous data challenges.
Alain van Gool agrees that this topic will be of great interest in Health-RI, and it is already dealt with in large European framework projects that we should link to. Possibly, experienced hotels could collectively establish a microbiomics/metagenomics node in Health-RI.

4. Organising the DTL 'hotel-lobby': How to get the most out of DTL and get involved in DTL activities (Annex 3)

a. Workshop organised by Inge Schats (AT Computing) and Femke Francissen (DTL).

Inge introduces the plan for this interactive session: At the PAC on November 13 last year, we spoke about the added value of DTL for its partners and how to get most out of DTL. To stimulate discussions during the workshop, a form is handed out which helps all attendees to introduce your organisation. The form has the following questions, all are asked to give two or three keywords per question: 1. Short outline of your organisation, 2. What is the added value of DTL for your organisation, 3. Which favourite topics would you like DTL to address, 4. What has your organisation to offer in DTL.

Attendees discuss their input together in small groups, guided by one of the workshop organisers. After the workshop, each group shortly summarises the essentials of the discussion for the other PAC members. The output of the workshop is captured in a separate document as annex to this report.

The DTL team will work this out and define steps to accommodate requests from the partners (**Action 20160610-2).**

After the workshop Barend Mons adds that he would like all to consider viewing DTL as a network in which we all participate. We should subtly change terms as 'what does DTL do'/'what can you do for DTL' in 'what happens in DTL', 'what what can you do in DTL'

6. Closure and drinks

The next meeting is scheduled November 25, 2016. Dick de Ridder invites the PAC to come to Wageningen.

Ronald Stolk thanks all participants for their contribution and closes the meeting.

Actions:

A20150522-3	Make an inventory among the partners of key datasets that could be made FAIR	Ruben Kok & Barend Mons	Part of GO-FAIR and ELIXIR-NL development
A20150522-4	Define next steps in establishing a federated ICT and data infrastructure that fits the needs of, and has ownership in the collective life science fields.	Ruben Kok and Anwar Osseyran	Ongoing, *part of GO-FAIR/European Open Science Cloud process, of NL-Roadmap and Health-RI*
A20150522-6	DTL will facilitate document sharing among the partners and a discussion platform and set up a system for this	Ruben Kok	First step via DTL website, extended to document sharing system
A20151113-1	Collect data management plans among DTL hotels to be used in working out a generic Data Stewardship approach	DTL team in communication with DTL hotel owners	Will be organised progressively, starting with proteomics hotels

A20160610-1	DTL will make basic results of Agri&Food data survey available to the partners	Ruben Kok	Coming period
A20160610-2	DTL will provide partners with information regarding the Health-RI initiative in the coming future.	Ruben Kok	Coming period
A20160610-3	The DTL team will work this out and define steps to accommodate requests from the partners	Ruben Kok & DTL team	Coming period