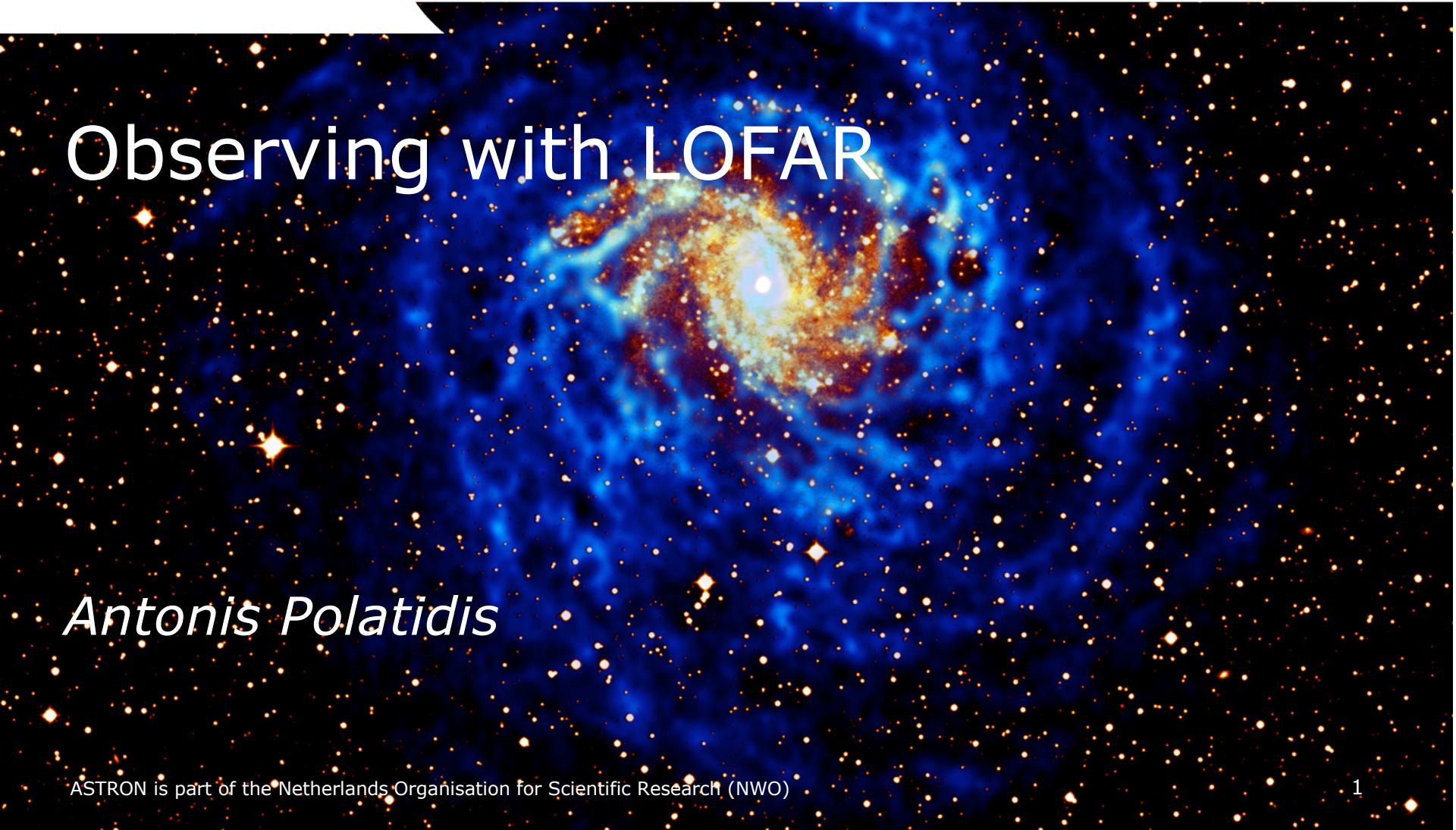




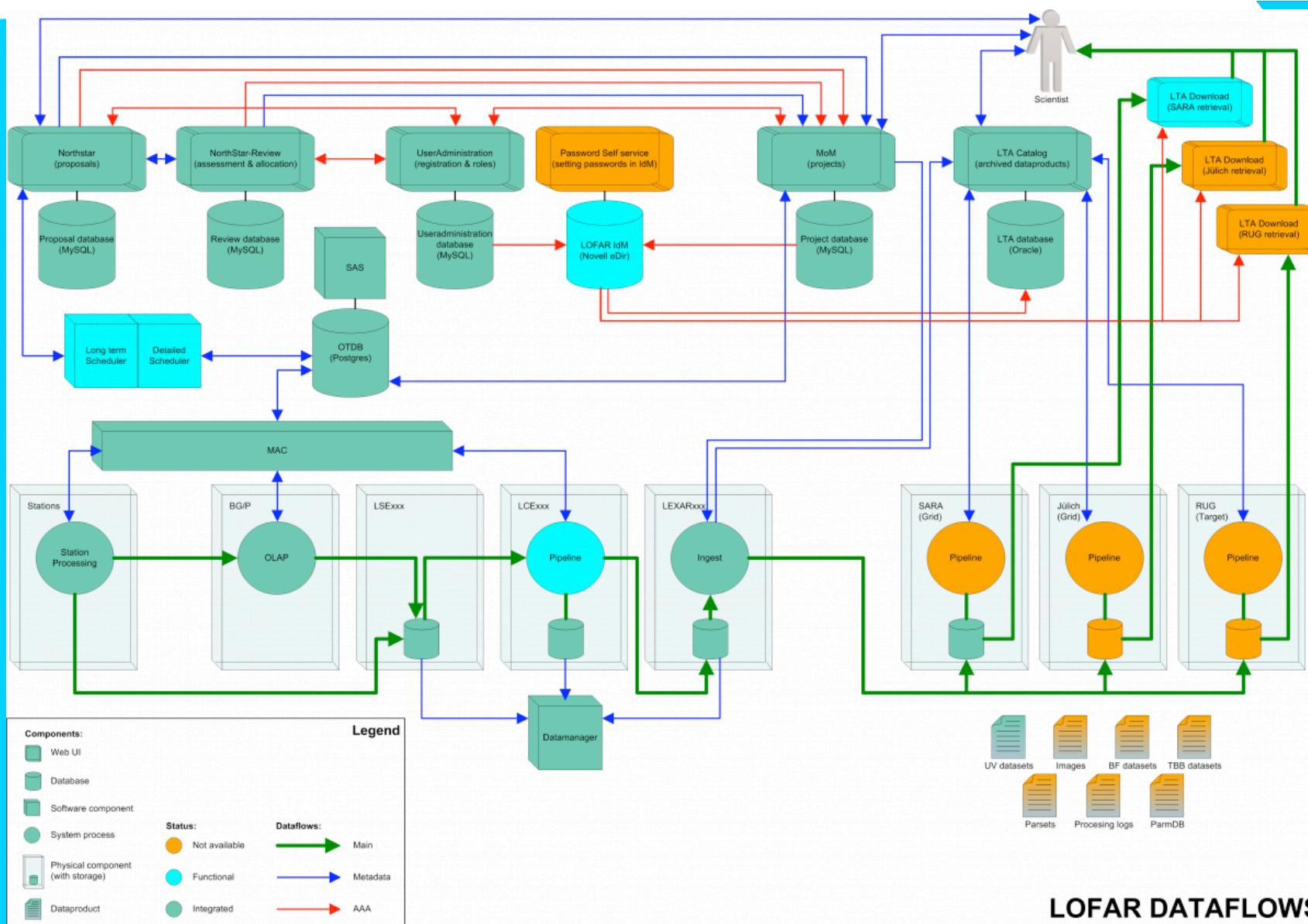
Netherlands Institute for Radio Astronomy

Observing with LOFAR



Antonis Polatidis

LOFAR Data Flow: starts and ends with the Scientist



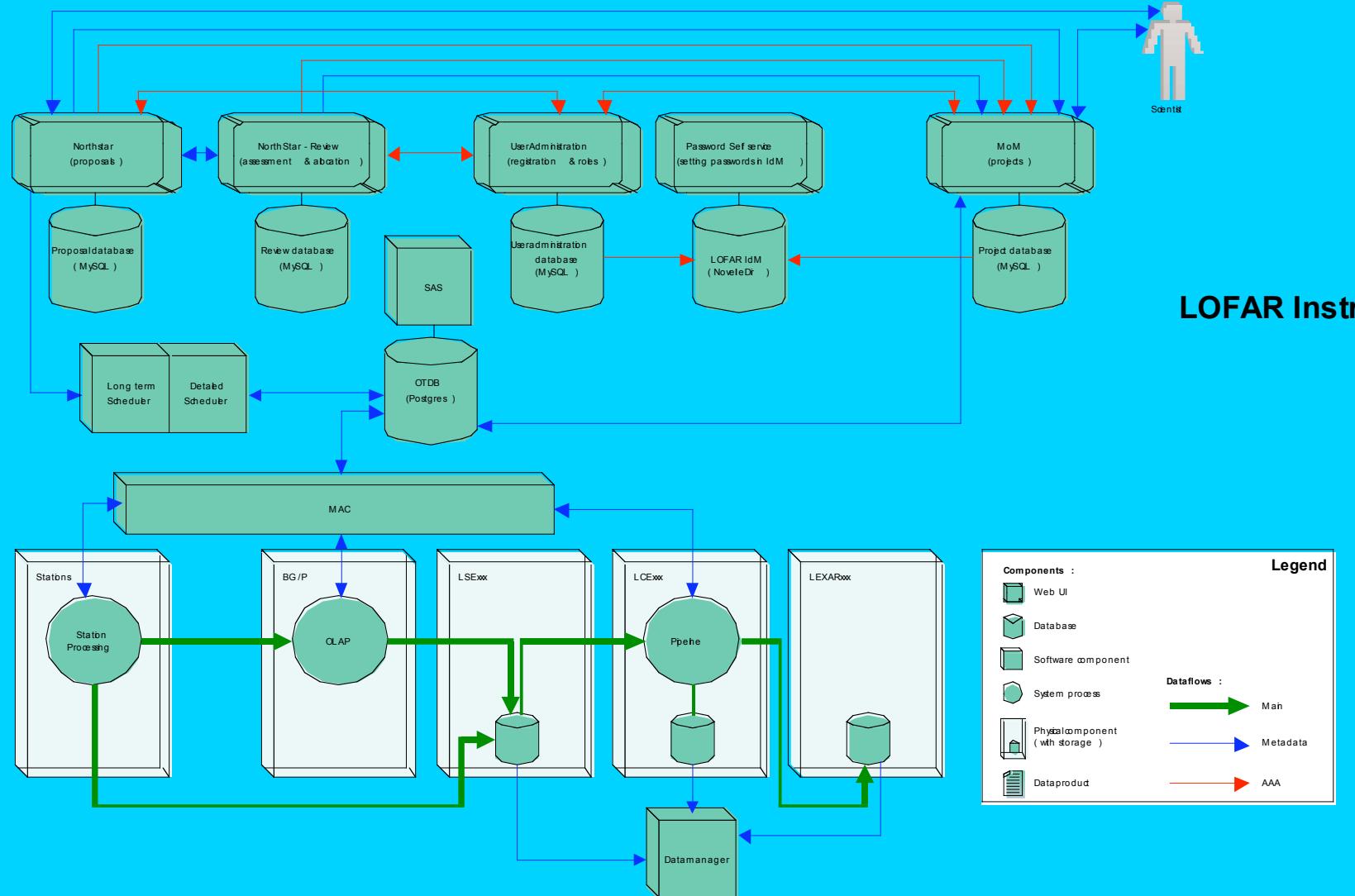
Between the scientist and the blocks



- A large number of software and hardware engineers, astronomers and others who designed, constructed and keep LOFAR operational.
- Radio Observatory Operators:
Jurgen Sluman, Geert Kuper, Yuan Tang (observer@astron.nl)
- ASTRON RO's Science Support Group (7-8 people):
 - Asish Asgekar
 - Michiel Brentjens
 - Guyla Jozsa.
 - Rebecca McFadden
 - R. Pizzo
 - A. Polatidis
 - N. Pradel

sciencesupport@astron.nl

Observing Part



Proposal Submission



- Proposals will be submitted through a Web-based proposal tool “NorthStar for LOFAR”.
 - Developed by ASTRON and based in similar tools for the WSRT, the EVN, INT, JCMT, Effelsberg, OPTICON etc.
 - First version is ready and is being tested.
- Proposal Review Committee (15 members) will assess the scientific merit as well as the technical feasibility.
 - “NorthStar for LOFAR” incorporates the refereeing process.

Information on LOFAR at the Radio Observatory Web Pages

(<http://www.astron.nl/radio-observatory/astronomers/lofar-astronomers>)



- ASTRON's web pages under the heading "*Radio Observatory*" contain information on the astronomical use of LOFAR as well as that of the WSRT.
- Web pages are in a state of flow as they are revised frequently.
- "*Requesting Observations and Data*" on procedures to apply for observations or data.
- "*Technical Information*" contains a description of the instrument characteristics and capabilities with respect to planning observations.
- "*Current Status*" will give updates on station roll-out and acceptance.

Information & Helper Applications



- Data Volume Calculator

<http://lofar.proposal.astron.nl/service/pages/storageCalculator/uvdata.jsp>

Gives a rough size estimate on the amount of storage space needed for an observation depending on the observing mode

- LOFAR Wiki

<http://www.lofar.org/operations/doku.php?id=start>

- LOFAR Users Forum

<http://usg.lofar.org/forum/index.php>

NorthStar for LOFAR
<http://lofar.astron.nl/proposal>



Welcome to NorthStar for LOFAR

ASTRON
LOFAR

Username: apolatidis

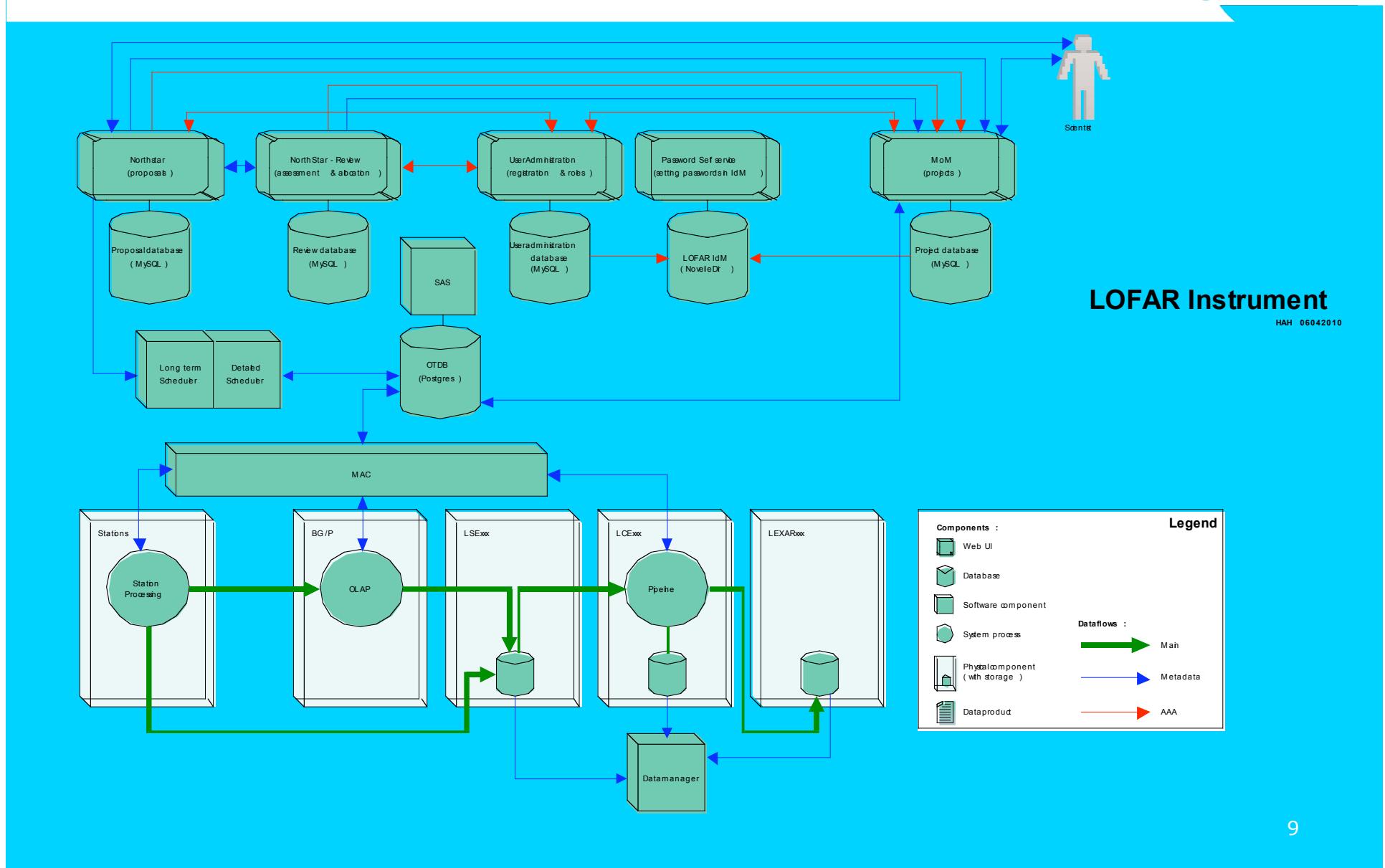
Password:

Log in

[Register as new user](#) [Password forgotten?](#) [Send Questions/Problems](#) [Help](#)

The login page features a background image of a field with several black LOFAR antenna masts. The mast in the center-right has a white rectangular sign attached to its top. The sign contains the text "Welcome to NorthStar for LOFAR" at the top, followed by the "ASTRON" and "LOFAR" logos. Below the mast, there are two input fields: one for "Username" containing "apolatidis" and another for "Password" containing five dots. A blue "Log in" button is positioned below the password field. At the bottom of the page, there are four blue links: "Register as new user", "Password forgotten?", "Send Questions/Problems", and "Help".

Instrument

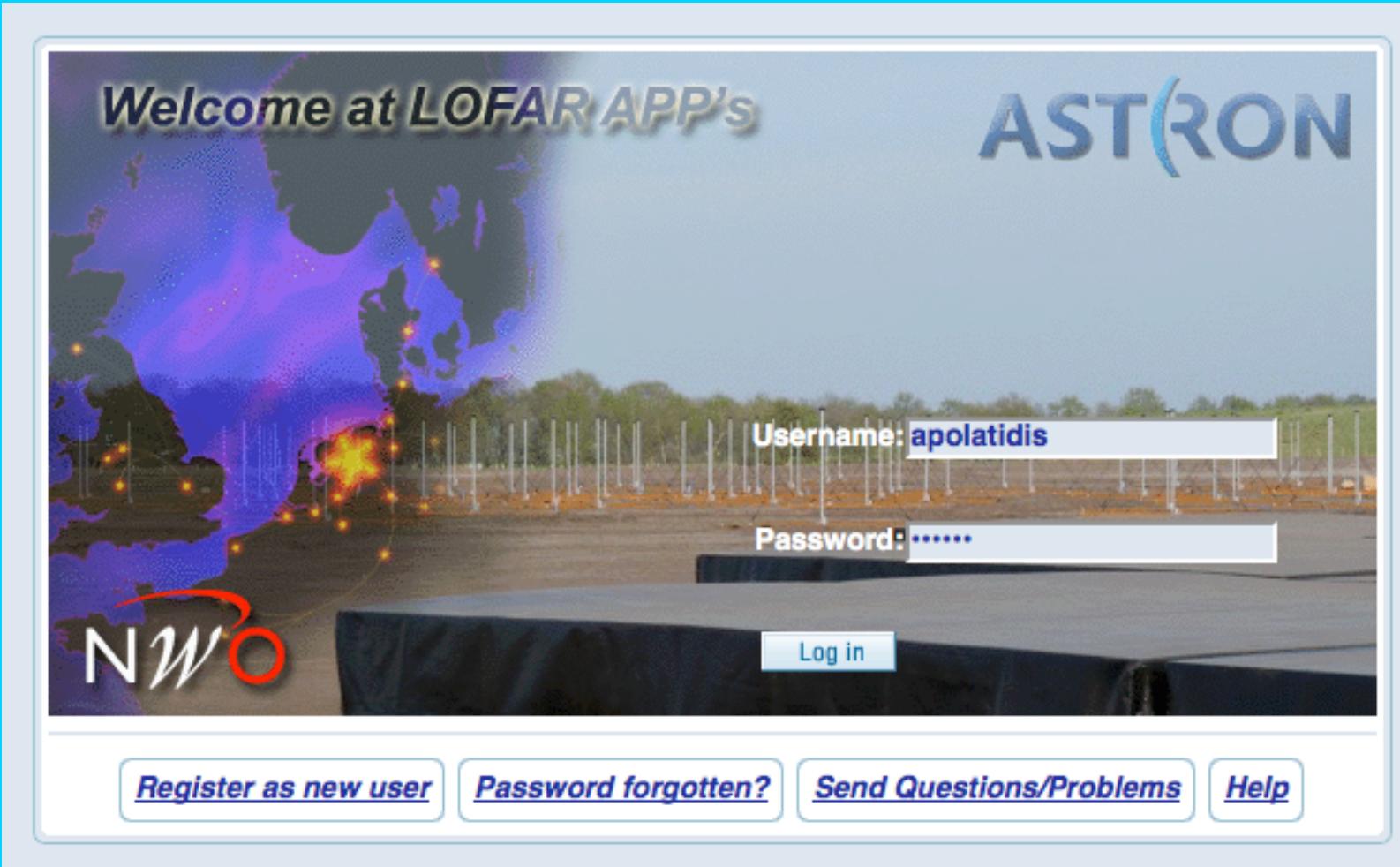


Radio Observatory Control Room



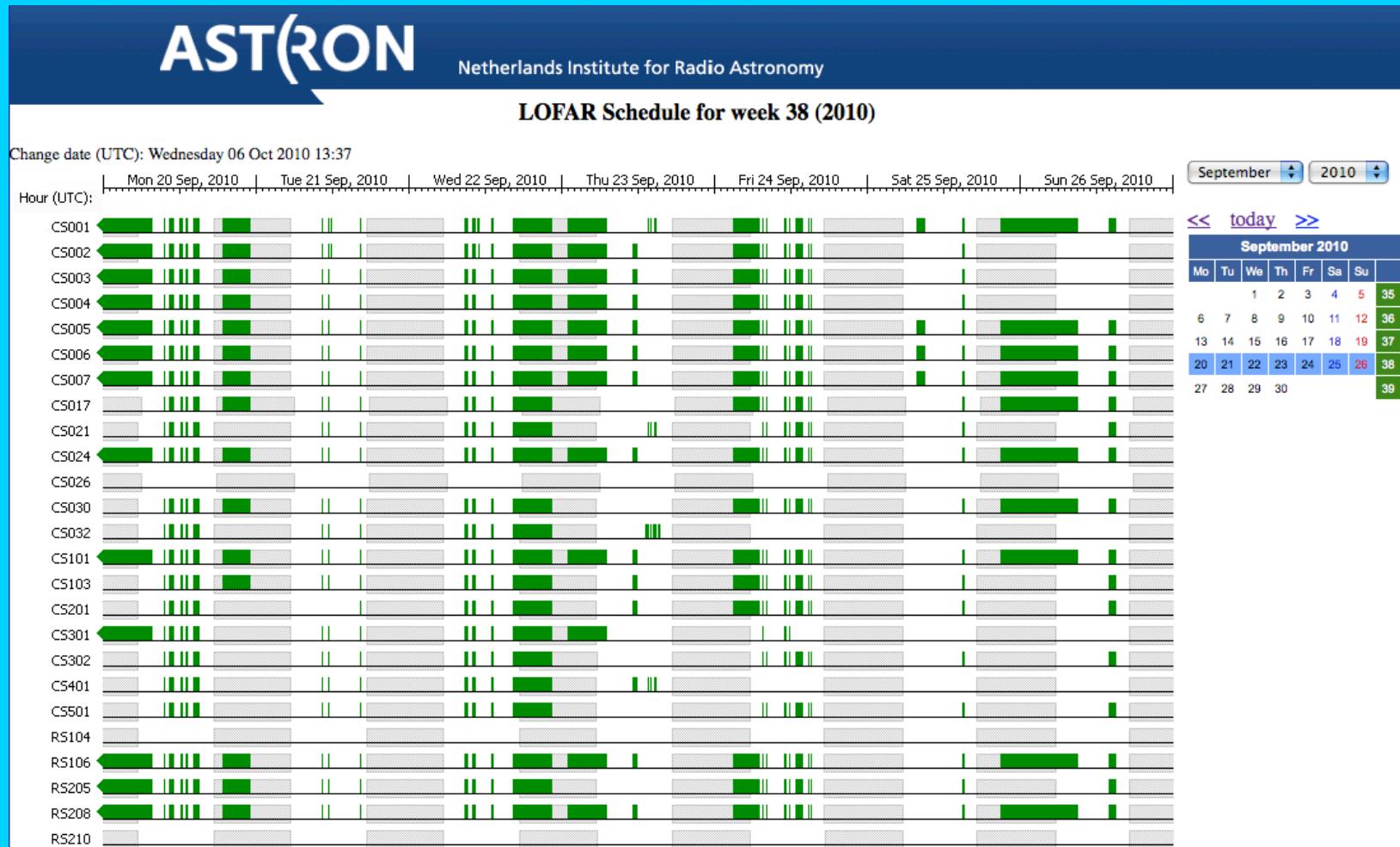
LOFAR Management of Measurements (MoM)

<http://lofar.astron.nl/mom3>



LOFAR Schedule (web page)

<http://www.astron.nl/lofar-schedule>



LOFAR Schedule (web page)

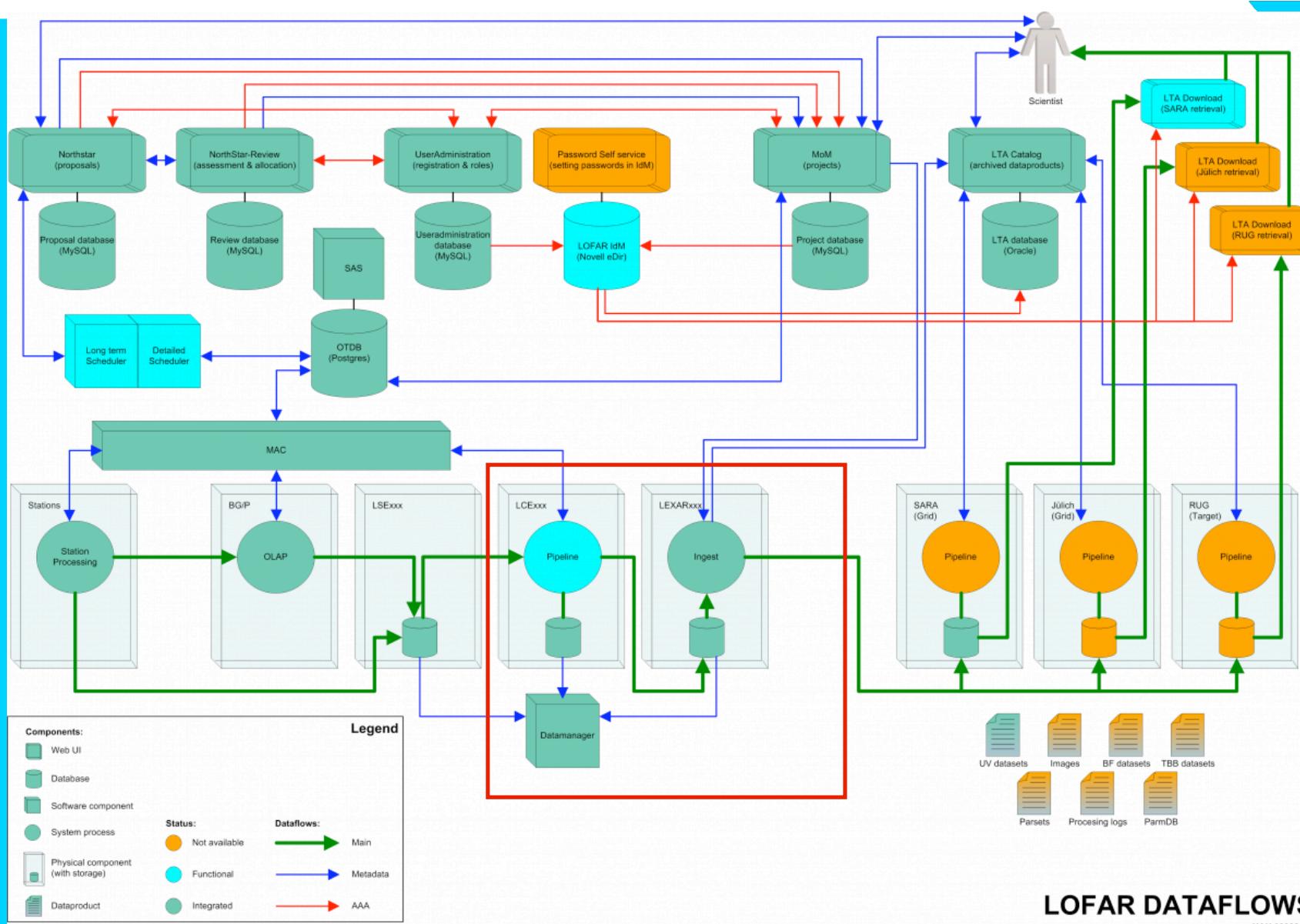
<http://www.astron.nl/lofar-schedule>



Terse details for each project

LOFAR schedule tasks for week 38 (2010)							
Project	Task	Type	Stations	Start (UTC)	Stop (UTC)	Duration	Description
LEA032		UNKNOWN	CS001;CS002;CS003...	09/19/2010 21:00:01	09/20/2010 07:44:18	10:44:17	[OBSERVATION] B0329+54 IMG+PSR to commission transients pipeline
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 09:40:00	09/20/2010 09:45:18	00:05:18	[OBSERVATION] Cas A HBA_ZERO
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 10:34:00	09/20/2010 10:39:19	00:05:19	[OBSERVATION] Cas A HBA_DUAL
LOFAROPS		UNKNOWN		09/20/2010 10:42:00	09/20/2010 10:42:00	00:00:00	[OBSERVATION] Cas A HBA_ONE
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 10:50:00	09/20/2010 10:55:19	00:05:19	[OBSERVATION] Cas A HBA_JOINED
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 10:58:00	09/20/2010 11:03:19	00:05:19	[OBSERVATION] Cas A LBA_INNER
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 11:06:00	09/20/2010 11:11:18	00:05:18	[OBSERVATION] Cas A LBA_OUTER
MSSS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 12:02:18	09/20/2010 12:08:04	00:05:46	OLAP test observation (correlated data)
MSSS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 12:10:32	09/20/2010 12:16:18	00:05:46	OLAP test observation (correlated data)
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 12:20:00	09/20/2010 12:25:19	00:05:19	[OBSERVATION] Cas A HBA_ONE
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 13:08:00	09/20/2010 13:13:45	00:05:45	[OBSERVATION] Cas A HBA_ONE
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 14:18:00	09/20/2010 14:18:00	00:00:00	[OBSERVATION] Cas A HBA_ONE
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 14:27:00	09/20/2010 14:32:18	00:05:18	[OBSERVATION] Cas A HBA_ONE
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 14:44:01	09/20/2010 14:49:46	00:05:45	[OBSERVATION] Cas A HBA_JOINED
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 14:52:00	09/20/2010 14:57:19	00:05:19	[OBSERVATION] Cas A LBA_OUTER
LOFAROPS		UNKNOWN	CS001;CS002;CS003...	09/20/2010 15:00:00	09/20/2010 15:05:19	00:05:19	[OBSERVATION] Cas A LBA_INNER
no campaign		UNKNOWN	CS001;CS002;CS003...	09/20/2010 19:00:00	09/20/2010 23:00:19	04:00:19	[OBSERVATION] Ligo event of 19 Sep 2010
LOFAROPS		UNKNOWN		09/21/2010 10:17:02	09/21/2010 10:22:19	00:05:17	[OBSERVATION] Cas

LOFAR Data Flow: post-observation processing



Post Observation Processing



Observations are finished

Raw data are recorded on disks

Depending on observing modes a specific pipeline is run

Results are scrutinized

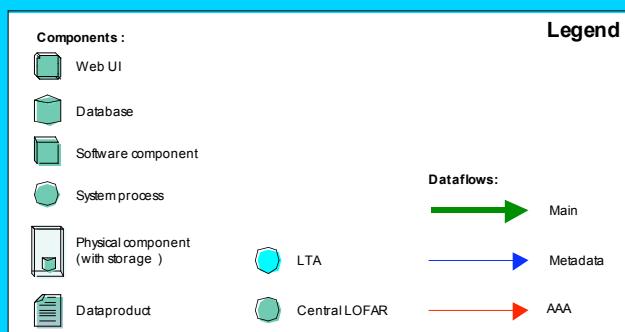
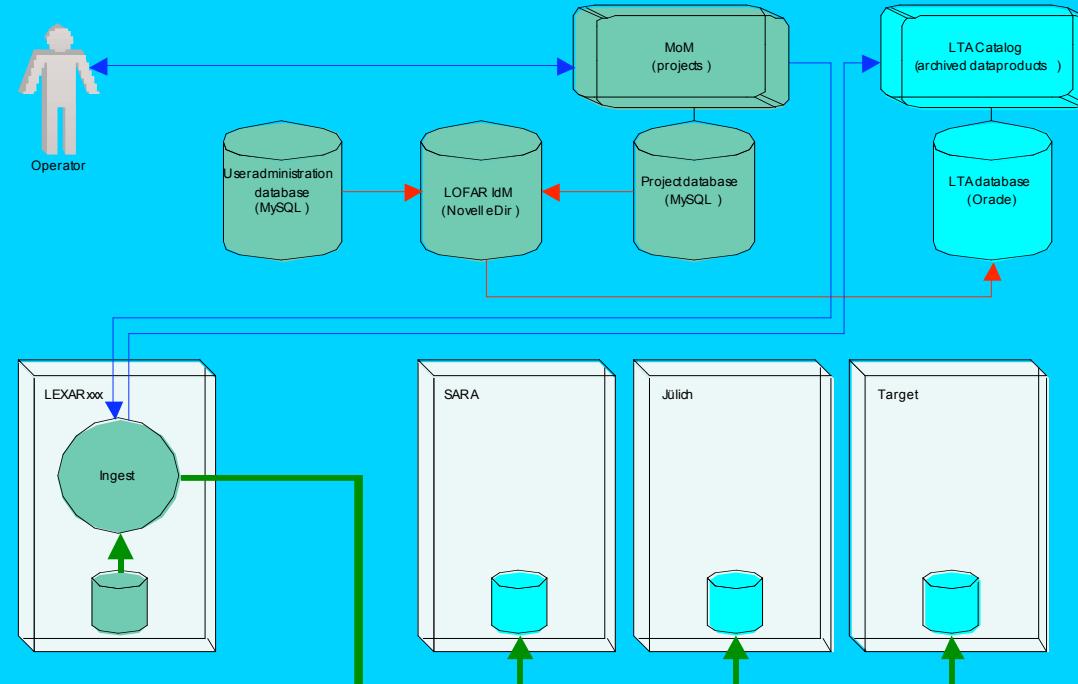
Communications (SSG) with the astronomer

If needed some re-processing on CEP/Groningen

Clear for “Archiving”

Raw data will be deleted (~99% of cases)

Long Term Archive (LTA) Layer



Instrument – LTA Layer

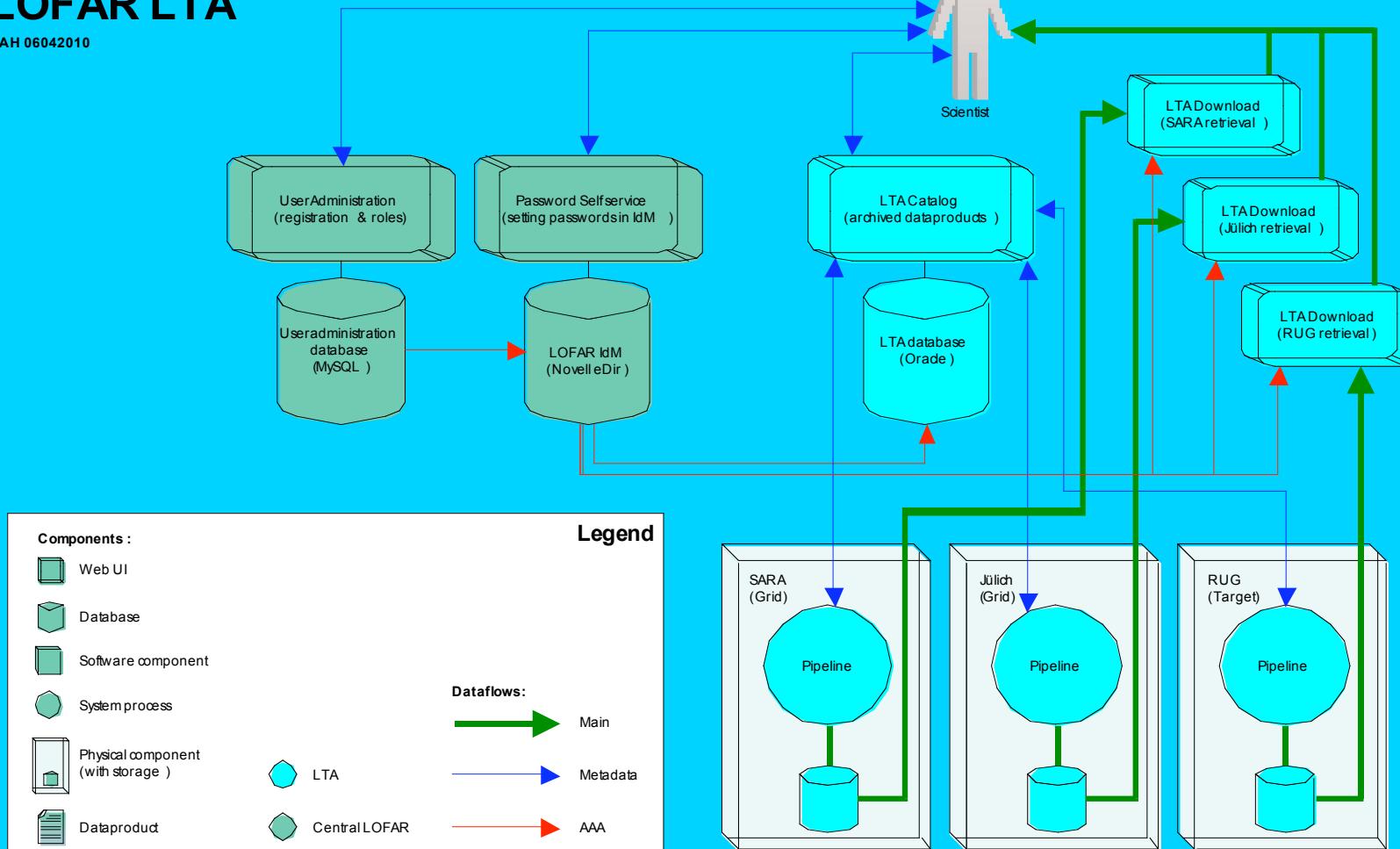
HAH 06042010

LOFAR LTA Architecture

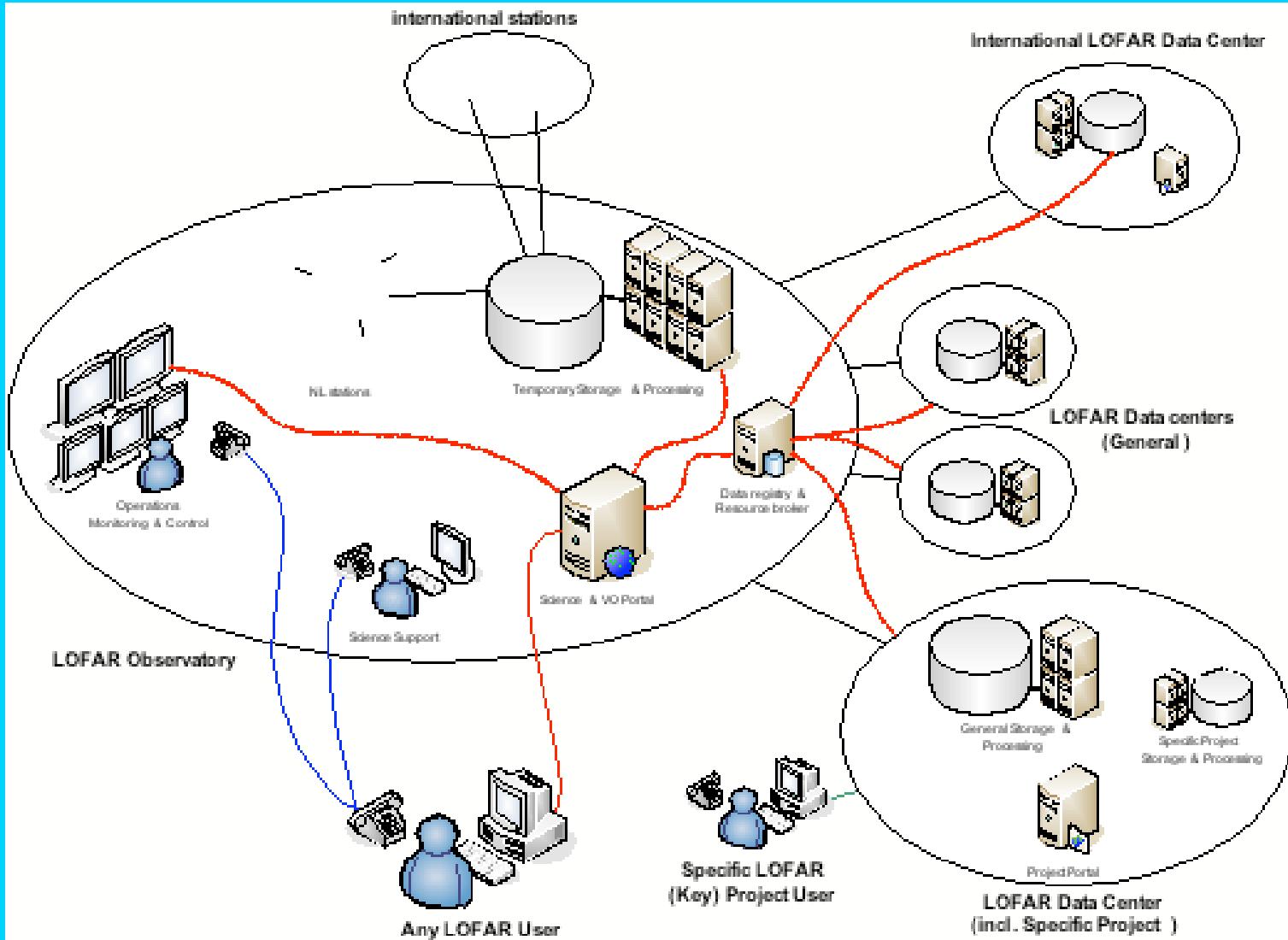


LOFAR LTA

HAH 06042010



Data distribution



Target development AstroWise Web interface





TarGet

98 99 100 101 102 103 104



ASTRON

LOFAR

[Home](#) | [Help](#) | [project test-lofar](#) | [user anonymous](#) | [Search](#) | [Show Latest](#) | [Overview](#)

14 results for UVMeasurement

Creator	Privileges	Project	antennaSelection	beamNumber	clock	creationDate	instrumentFilter	instrumentType	integrationInterval	measurementDescription	measurementIdentifier	measurementType	
1	AWTIERO	2	test-lofar	HBA Both	1	200.0	2010-04-02 22:59:47	170-230 MHz	Interferometer	1.0	Single subband 16156 SB1	10015	Target
2	AWTIERO	2	test-lofar	HBA Both	2	200.0	2010-04-02 22:51:32	170-230 MHz	Interferometer	1.0	Single subband 16156 SB2	10016	Target
3	AWTIERO	2	test-lofar	HBA Both	4	200.0	2010-04-02 22:26:19	170-230 MHz	Interferometer	1.0	Single subband 16156 Subband 4	10018	Target
4	AWTIERO	2	test-lofar	HBA Both	3	200.0	2010-04-01 04:02:23	170-230 MHz	Interferometer	1.0	Single subband 16156 SB3	10017	Target
5	AWTIERO	2	test-lofar	HBA Both	0	200.0	2010-03-31 13:33:00	170-230 MHz	Interferometer	1.0	Single subband 16156 SB0	10014	Target
6	AWTIERO	2	test-lofar	LBA Sparse Even	0	200.0	2010-03-15 16:06:41	10-90 MHz	Interferometer	1.0	Single Beam simulating L50931	10009	Target
7	AWTIERO	2	test-lofar	LBA Sparse Even	0	200.0	2010-03-12 16:57:20	10-90 MHz	Interferometer	1.0	Single subband beam	31	Calibration
8	AWTIERO	2	test-lofar	HBA Both	0	160.0	2010-02-12 15:50:19	170-230 MHz	Interferometer	1.0	New Measurement because the old tests have disappeared	79	Target
9	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 17:34:12	30-80 MHz	Interferometer	4.0	None	450	Target
10	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 16:48:39	30-80 MHz	Interferometer	5.0	None	447	Target
11	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 16:39:13	30-80 MHz	Interferometer	4.0	None	443	Target
12	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 15:31:13	30-80 MHz	Interferometer	4.0	None	438	Target
13	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 15:05:07	30-80 MHz	Interferometer	4.0	None	435	Target
14	AWTIERO	2	test-lofar	LBA Outer	0	160.0	2009-11-26 14:54:53	30-80 MHz	Interferometer	4.0	None	428	Target

powered by



ASTRO
WISE

The LOFAR Long Term Archive



- **Large** (Estimated yearly growth: 2.5 Petabyte)
 - Long term data rate x2 (redundancy): ~1.3 Gbps sustained
 - Nevertheless storage (& computing) scarce resource
 - Allocation by Program Committee
 - Mix of technologies
 - Tape: cheap(er) & slow(er)
 - Disk: expensive & fast(er)
- **Integrated**
 - Single LTA for International LOFAR Telescope (ILT) Projects
 - All dataproducts that require long term storage
- **Distributed**
 - Groningen (CIT)
 - Amsterdam (SARA)
 - Jülich
 - ...
- **Integrated processing**
 - Application – site relation

