



**Goal of this meeting,  
Work package Overview**

**Huib Jan van Langevelde, JIVE**

- **Perspective**

- What is ALBiUS and what not
- Does it relate to ALBUS? Lessons learned.
- Produce software and fulfil EC requirements

- **Management**

- Produce the deliverables and making eligible costs
- Tracking progress
- Reporting and other requirements

- **Kick-off meeting**

- How do we get going?
- What is free and what is fixed?
- Towards work-plans

- **Project components**

- Work-packages
- Man-months, money, matching
- Deliverables
- A first matrix of work division

# Goal of this meeting

- **Make sure there is a sense of ownership of the assigned work-packages**
  - And everybody is comfortable with their assignments
  - If changes are needed, do them early!
- **Brainstorm what the work will entail in reality**
- **Set-up (bilateral) collaborations**
  - Most work-packages have a lead and secondary partners
- **Define time-line for starting up**
  - Need individual project plans
  - Telecoms to monitor progress
  - Probably another business meeting in 6 months
- **Set-up management structure**
  - Prefer single points of contact for reporting and finances

- **Inform you on the formal requirements**
- **Desire to start brain-storming**
  - Probably best done in splinter sessions
- **Return with contours on all work-packages**
  - Want presentations on all of these tomorrow
  - Sufficient time to prepare these

- **On the wiki at**
  - <http://www.radionet-eu.org/fp7wiki/doku.php?id=jra:albius:meeting>
- **Notice wrap-up talks are expected tomorrow**
  - Probably also need to think about follow-up meeting
- **Are there any concerns about the meeting timeline?**

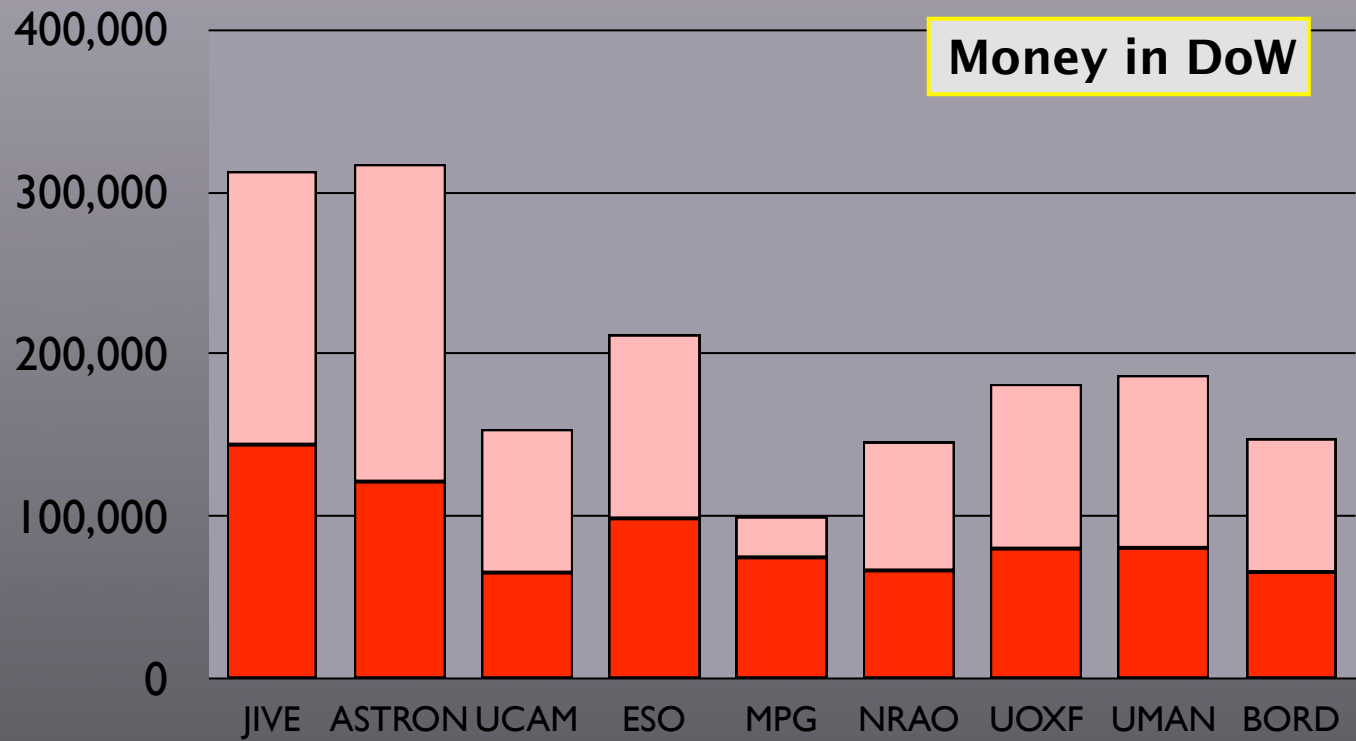
- **Current RadioNet DoW is almost finished**
  - Description of Work is a contract with the EC
  - Will formally kick-off on January 1 2009
    - Means one can start making eligible costst
- **Ended up as 1M€ contract with 75% (hour) matching**
  - Quite slim in actual funding
  - But also reduced in number and form of milestones
- **Started as two 1.5 M€ proposals to RadioNet board**
  - Made cut after merge in internal review
  - Was not too highly ranked by EC referees
    - Cut to 0.8M€, but reasons not quite clear
    - And seemed to ask to do same amount of work for less funding
  - Negotiated back to 1M€
    - Partners committed to fairly high matching

- **Partners to continue with up to 50% matching**
  - Some in 50/50 manhours, other in finances
  - Note that there is explicit 25% matching
  - And we encouraged a modest matching on top of that
- **Convergence on 224 manmonth, was 258**

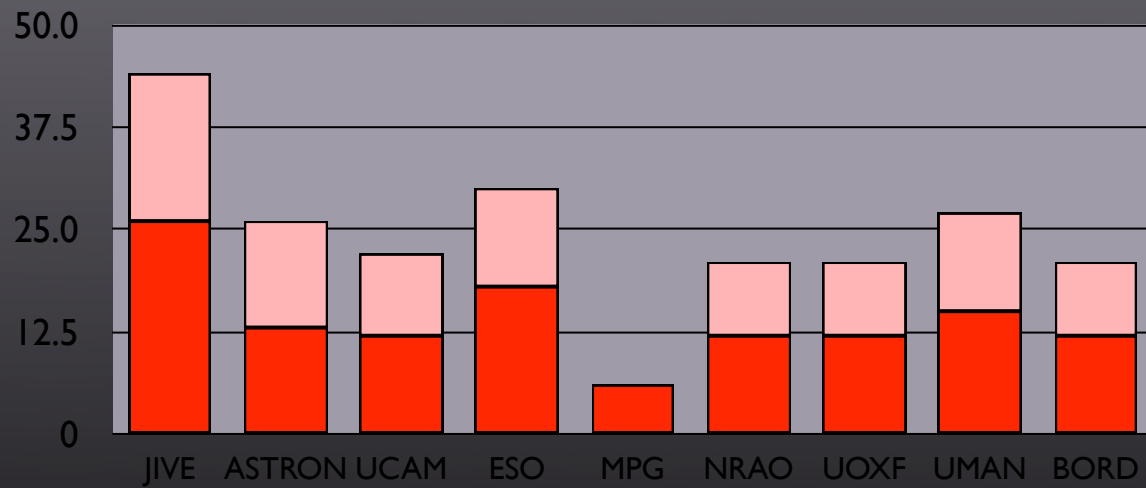
| Participant name | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |      |
|------------------|------|--------|------|-----|-----|------|------|------|------|------|
| Person-months:   | 26+  | 13+    | 12+  | 18+ | 6+  | 12+  | 12+  | 15+  | 12+  | 126+ |
|                  | 18   | 13     | 10   | 12  | 0   | 9    | 9    | 12   | 9    | 92   |

- **Slicing the now much smaller cake**
  - Keep everybody fractionally happy...
  - So keeping (almost) the same EC allocation share
  - Important and sensible decision at ESO
    - Focus on a few larger assignments in calibration and data structures
  - No formal matching from MPI, but 6 months informal

Money in DoW



Manpower in DoW



Partner contributed  
EC contribution

Partner Contribution  
EC Contribution



# Money

scenario max 50% matching, rev5

|                               | Part1   | Part 2  | Part 3  | Part 4  | Part 5  | Part 6  | Part 7  | Part 8  | Part 9  | Total     |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| <b>Partner Short name</b>     | JIVE    | ASTRON  | UCAM    | ESO     | MPG     | NRAO    | UOXF    | UMAN    | BORD    |           |
| <b>RTD rate</b>               | 75      | 75      | 75      | 75      | 75      | 75      | 75      | 75      | 75      |           |
| <b>Overhead rate (%)</b>      | 60      | 60      | 60      | 60      | 60      | 60      | 60      | 60      | 60      |           |
| <b>Overhead rate/year (€)</b> |         | 53,400  |         |         | 113,000 |         |         |         |         |           |
| <b>Analytical a/c*</b>        | No      | Yes     | No      | No      | Yes     | No      | No      | No      | No      |           |
| <b>Labour rate/year</b>       | 50,000  | 89,400  | 49,700  | 50,000  | 75,000  | 47,300  | 62,000  | 49,500  | 50,000  |           |
| <b>Labour rate/month</b>      | 4,167   | 7,450   | 4,142   | 4,167   | 6,250   | 3,942   | 5,167   | 4,125   | 4,167   |           |
| <b>Overhead rate/mont</b>     | - 0     | 4,450   | - 0     | - 0     | 9,417   | - 0     | - 0     | - 0     | - 0     |           |
| <b>Man months (funded)</b>    | 18      | 13      | 10      | 12      | 0       | 9       | 9       | 12      | 9       | 92        |
| <b>Man months (funded)</b>    | 26      | 13      | 12      | 18      | 6       | 12      | 12      | 15      | 12      | 126       |
| <b>Personnel costs EC</b>     | 108,333 | 96,850  | 49,700  | 75,000  | 37,500  | 47,300  | 62,000  | 61,875  | 50,000  | 588,558   |
| <b>participants pers co</b>   | 75,000  | 96,850  | 41,417  | 50,000  | - 0     | 35,475  | 46,500  | 49,500  | 37,500  | 432,242   |
| <b>Travel</b>                 | 9,000   | 4,500   | 3,000   | 4,500   | 3,000   | 6,500   | 3,000   | 3,500   | 3,000   | 40,000    |
| <b>Equipment</b>              |         |         |         |         |         |         |         |         |         | - 0       |
| <b>Materials</b>              |         |         |         |         |         |         |         |         |         | - 0       |
| <b>Other</b>                  | 3,000   | 3,000   | 2,000   | 3,000   | 3,000   | 2,000   | 2,000   | 2,000   | 2,000   | 22,000    |
| <b>Other direct costs</b>     | 12,000  | 7,500   | 5,000   | 7,500   | 6,000   | 8,500   | 5,000   | 5,500   | 5,000   | 62,000    |
| <b>Indirect costs (EU)</b>    | 72,200  | 57,850  | 32,820  | 49,500  | 56,500  | 33,480  | 40,200  | 40,425  | 33,000  | 415,975   |
| <b>indirec costs (part)</b>   | 45,000  | 57,850  | 24,850  | 30,000  | - 0     | 21,285  | 27,900  | 29,700  | 22,500  | 259,085   |
| <b>Subtotal</b>               | 192,533 | 162,200 | 87,520  | 132,000 | 100,000 | 89,280  | 107,200 | 107,800 | 88,000  | 1,066,533 |
| <b>Sub-contract</b>           |         |         |         |         |         |         |         |         |         | - 0       |
| <b>Subcontracting</b>         | - 0     | - 0     | - 0     | - 0     | - 0     | - 0     | - 0     | - 0     | - 0     | - 0       |
| <b>Total budget (ori)</b>     | 192,533 | 162,200 | 87,520  | 132,000 | 100,000 | 89,280  | 107,200 | 107,800 | 88,000  | 1,066,533 |
| <b>real total budget</b>      | 312,533 | 316,900 | 153,787 | 212,000 | 100,000 | 146,040 | 181,600 | 187,000 | 148,000 | 1,757,860 |
| <b>Requested contribut</b>    | 144,400 | 121,650 | 65,640  | 99,000  | 75,000  | 66,960  | 80,400  | 80,850  | 66,000  | 799,900   |
| <b>contributed</b>            | 168,133 | 195,250 | 88,147  | 113,000 | 25,000  | 79,080  | 101,200 | 106,150 | 82,000  | 957,960   |
| <b>EC fraction</b>            | 46.2%   | 38.4%   | 42.7%   | 46.7%   | 75.0%   | 45.9%   | 44.3%   | 43.2%   | 44.6%   | 45.5%     |
| <b>share income</b>           | 18.05%  | 15.21%  | 8.21%   | 12.38%  | 9.38%   | 8.37%   | 10.05%  | 10.11%  | 8.25%   | 100.00%   |
| <b>share of work</b>          | 20.18%  | 11.93%  | 10.09%  | 13.76%  | 2.75%   | 9.63%   | 9.63%   | 12.39%  | 9.63%   | 100.00%   |
| <b>incl correction</b>        |         |         |         |         | 5.4%    |         |         |         |         |           |

- How do we salvage the existing algorithms for the era of ALMA, the SKA and its pathfinders?

OR

- How can we make sure that current RadioNet facilities make optimal use of new software?

- **WP 1: Interoperability**

- Exploit the common Python interface of AIPS, CASA, Miriad
  - Data formats, data models, mixing calibration, ParselTongue

- **WP 2: Calibration Algorithms**

- Fringe Fitting, needed by new instruments, new software environment
- Image plane calibration, directional dependence and mosaicing
- Parallel processing for calibration

- **WP 3: Automated Processing**

- Data Quality Control: identify and correct/excise corrupt data
- RFI mitigation
- Source Extraction and Parameterization

# Deliverables

| Del. no. | Deliverable name                                                                                          | Lead Partner | target date |
|----------|-----------------------------------------------------------------------------------------------------------|--------------|-------------|
| 6.1.1    | Final report on calibration of pilot experiment using interoperability framework                          | JIVE         | 21          |
| 6.1.2    | Release of distributed ParseITongue                                                                       | JIVE         | 21          |
| 6.2.1    | New implementation of Global Fringe Fitting algorithm                                                     | NRAO         | 36          |
| 6.2.2    | Direction dependent ionospheric, tropospheric, calibration to test data set                               | UMAN         | 21          |
| 6.2.3    | Software for mosaic imaging including primary beam correction                                             | ESO          | 25          |
| 6.2.4    | Report on image plane polarization calibration effects                                                    | UCAM         | 19          |
| 6.2.5    | Final report on the implementation of algorithms for image plane calibration in a distributed environment | ASTRON       | 30          |
| 6.2.6    | Final report on new algorithms and observing strategies for astrometry                                    | BORD         | 28          |
| 6.3.1    | RFI mitigation software                                                                                   | MPI          | 19          |
| 6.3.2    | Final report on Data Quality algorithms and excision methods                                              | UOXF         | 36          |
| 6.3.3    | Final report on models for extended sources                                                               | ASTRON       | 28          |

# Workplan matrix

- **Guiding principle: make Matrix as empty as possible**
  - For easiest project management, and clear responsibilities
  - Scratch 2 subtasks as a consequence

proposal dow rev5

| task     |                       |                                | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   | total |     |
|----------|-----------------------|--------------------------------|------|--------|------|-----|-----|------|------|------|------|-------|-----|
|          |                       | subtask                        | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |       |     |
| 1        | Interoperability      |                                | 35   | 0      | 0    | 18  | 0   | 0    | 0    | 3    | 0    | 56    |     |
| 1        | Portable Algorithms   | 1.1 Framework                  | 15   | 0      |      | 6   |     |      |      |      |      | 21    |     |
|          |                       | 1.12 Data structures           |      |        |      | 12  |     |      |      |      |      | 12    |     |
|          |                       | 1.2 Distributed ParselTongue   | 20   |        |      |     |     |      |      | 3    |      | 23    |     |
| 2        | Calibration algorithm |                                | 9    | 11     | 12   | 12  | 0   | 21   | 6    | 24   | 21   | 116   |     |
|          |                       | 2.1 Global Fringe fitting      | 6    |        |      |     |     | 15   |      | 3    |      | 24    |     |
| 2        | Image plane calibra   | 2.2.1 Ionospheric/tropospheric |      |        |      |     |     |      |      | 12   |      | 12    |     |
|          |                       | 2.2.2 Primary beam/mocaicing   |      |        |      | 12  |     | 6    |      | 6    |      | 24    |     |
|          |                       | 2.2.3 Polarization             |      |        | 12   |     |     |      |      |      |      | 12    |     |
|          |                       | 2.2.4 Distributed processing   |      | 11     |      |     |     |      | 6    |      |      | 17    |     |
|          |                       | 2.3 Astrometric positions      | 3    |        |      |     |     |      |      | 3    | 21   | 27    |     |
| 3        | Large datasets        |                                | 0    | 15     | 10   | 0   | 12  | 0    | 15   | 0    | 0    | 52    |     |
| 3        | Quality control       | 3.1.1. RFI mitigation          |      |        |      |     | 12  |      |      |      |      | 12    |     |
|          |                       | 3.1.2. Data Inspection         |      | 6      |      |     |     |      | 9    |      |      | 15    |     |
|          |                       | 3.1.3 Data Excision            |      |        | 10   |     |     |      | 6    |      |      | 16    |     |
|          | Source Parametrisa    | 3.2.1 Source parametrization   |      | 9      |      |     |     |      |      |      |      | 9     |     |
|          |                       | 3.2.2 Source extraction        |      | 0      |      |     |     |      |      |      |      | 0     |     |
|          |                       | 3.3 Source Modelling           |      | 0      |      |     |     |      |      |      |      | 0     |     |
| Total    |                       |                                | 44   | 26     | 22   | 30  | 12  | 21   | 21   | 27   | 21   | 224   |     |
| proposal |                       |                                |      |        |      |     |     |      |      |      |      | 126   | 218 |
|          |                       |                                |      |        |      |     |     |      |      |      |      | 92    |     |
|          |                       |                                |      |        |      |     |     |      |      |      |      | 92    |     |



# Interoperability: portable algorithms

| Del. no. | Deliverable name                                                                 | Lead | Deliver date |
|----------|----------------------------------------------------------------------------------|------|--------------|
| 6.1.1    | Final report on calibration of pilot experiment using interoperability framework | JIVE | 21           |

|      |                 | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|------|-----------------|------|--------|------|-----|-----|------|------|------|------|
|      | subtask         | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 1.1  | Framework       | 15   | 0      |      | 6   |     |      |      |      |      |
| 1.12 | Data structures |      |        |      | 12  |     |      |      |      |      |

- **Will go through the lists**
  - Will not discuss content in detail, that's your work!
- **Form of work/deliverable is rather open-ended**
  - So could be scientific discussion paper
    - After all is a Joint Research Activity
  - Or software in some domain
    - CASA, AIPS, MIRIAD, LOFAR specific
- **But should really be applicable to more than 1 instrument**
  - So more than writing ParselTongue software for VLBI
  - Or CASA for ALMA

# Interoperability: Distributed ParselTongue

| Del. no. | Deliverable name                    | Lead | Deliver date |
|----------|-------------------------------------|------|--------------|
| 6.1.2    | Release of distributed ParselTongue | JIVE | 21           |

|     |                          |      |        |      |     |     |      |      |      |      |
|-----|--------------------------|------|--------|------|-----|-----|------|------|------|------|
|     |                          | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|     | subtask                  | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 1.2 | Distributed ParselTongue | 20   |        |      |     |     |      |      | 3    |      |



# Calibration: Fringe fitting

| Del. no. | Deliverable name                                      | Lead | Deliver date |
|----------|-------------------------------------------------------|------|--------------|
| 6.2.1    | New implementation of Global Fringe Fitting algorithm | NRAO | 36           |

|     |                       |      |        |      |     |     |      |      |      |      |
|-----|-----------------------|------|--------|------|-----|-----|------|------|------|------|
|     |                       | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|     | subtask               | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 2.1 | Global Fringe fitting | 6    |        |      |     |     | 15   |      | 3    |      |

# Calibration: Image Plane Calibration

| Del. No. | Deliverable name                                                                                          | Lead   | Del. date |
|----------|-----------------------------------------------------------------------------------------------------------|--------|-----------|
| 6.2.2    | Direction dependent ionospheric, tropospheric, calibration to test data set                               | UMAN   | 21        |
| 6.2.3    | Software for mosaic imaging including primary beam correction                                             | ESO    | 25        |
| 6.2.4    | Report on image plane polarization calibration effects                                                    | UCAM   | 19        |
| 6.2.5    | Final report on the implementation of algorithms for image plane calibration in a distributed environment | ASTRON | 30        |

|       |                          | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|-------|--------------------------|------|--------|------|-----|-----|------|------|------|------|
|       | subtask                  | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 2.2.1 | Ionospheric/tropospheric |      |        |      |     |     |      |      | 12   |      |
| 2.2.2 | Primary beam/mosaic      |      |        |      | 12  |     | 6    |      | 6    |      |
| 2.2.3 | Polarization             |      |        | 12   |     |     |      |      |      |      |
| 2.2.4 | Distributed processing   |      | 11     |      |     |     |      | 6    |      |      |

# Calibration: Astrometry

| Del. no. | Deliverable name                                                       | Lead Partner | Deliver date |
|----------|------------------------------------------------------------------------|--------------|--------------|
| 6.2.6    | Final report on new algorithms and observing strategies for astrometry | BORD         | 28           |

|     |                       |      |        |      |     |     |      |      |      |      |
|-----|-----------------------|------|--------|------|-----|-----|------|------|------|------|
|     |                       | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|     | subtask               | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 2.3 | Astrometric positions | 3    |        |      |     |     |      |      | 3    | 21   |

# Large sets: Automated Quality

| Del. no. | Deliverable name                                             | Lead | Del. date |
|----------|--------------------------------------------------------------|------|-----------|
| 6.3.1    | RFI mitigation software                                      | MPI  | 19        |
| 6.3.2    | Final report on Data Quality algorithms and excision methods | UOXF | 36        |

|        |                 | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|--------|-----------------|------|--------|------|-----|-----|------|------|------|------|
|        | subtask         | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 3.1.1. | RFI mitigation  |      |        |      |     | 12  |      |      |      |      |
| 3.1.2. | Data Inspection |      | 6      |      |     |     |      | 9    |      |      |
| 3.1.3. | Data Excision   |      |        | 10   |     |     |      | 6    |      |      |

# Large sets: source parametrization

| Del. no. | Deliverable name                            | Lead Partner | Del. date |
|----------|---------------------------------------------|--------------|-----------|
| 6.3.3    | Final report on models for extended sources | ASTRON       | 28        |

|       |                        |      |        |      |     |     |      |      |      |      |
|-------|------------------------|------|--------|------|-----|-----|------|------|------|------|
|       |                        | 4    | 1      | 18   | 15  | 5   | 23   | 19   | 6    | 20   |
|       | subtask                | JIVE | ASTRON | UCAM | ESO | MPG | NRAO | UOXF | UMAN | BORD |
| 3.2.1 | Source parametrization |      | 9      |      |     |     |      |      |      |      |

# Who talks to who?

