

SS1: European Forum of Astronomical Communities in New Member States Prague June 28th 2017

### Aims of the

#### European Forum of Astronomical Communities

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#### in collaboration with

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- Long-term activity where representatives of various national communities discuss progress, intentions and plans;
- Milestones: Annual Forum Sessions @ Future EWASS Assemblies;
  - Starting point: ASTRONET D3-1, D3-2, D3-3



### Statistics Size of the Community

| Country   | Population<br>(millions) | Number of<br>astronomers1 | Number of IAU<br>members | Astronomers per<br>million<br>inhabitants | IAU members<br>per million<br>inhabitants |
|-----------|--------------------------|---------------------------|--------------------------|---|---|
| Bulgaria  | 7,3                      | 101                       | 67                       | 14  | 9   |
| Croatia   | 4,3                      | 38                        | 25                       | 7   | 6   |
| Estonia   | 1,3                      | 40                        | 33                       | 31  | 25  |
| Greece    | 10.9                     | 72                        | 123                      | 7   | 11  |
| Hungary   | 9,9                      | 85                        | 72                       | 9   | 7   |
| Latvia    | 2,0                      | 50                        | 16                       | 25  | 8   |
| Lithuania | 3,0                      | 40                        | 21                       | 13  | 7   |
| Romania   | 20,1                     | 115                       | 33                       | 6   | 2   |
| Serbia    | 7,2                      | 70                        | 51                       | 10  | 7   |
| Slovakia  | 5,4                      | 63                        | 46                       | 11  | 9   |

# Statistics Annual Spending on Astronomy

| Country   | Number of astronomers | Average annual salary (EUR) | Annual<br>Spending on astronomy<br>(kEUR) <sup>1)</sup> |
|-----------|-----------------------|-----------------------------|---|
| Bulgaria  | 101                   | 4 668                       | 1 414   |
| Croatia   | 38                    | 12 113                      | 1 381   |
| Estonia   | 40                    | 10 368                      | 1 244   |
| Greece    | 72                    | 18 000                      | 5 600   |
| Hungary   | 85                    | 10 467                      | 2 669   |
| Latvia    | 50                    | 8 923                       | 1 338   |
| Lithuania | 40                    | 7 425                       | 891   |
| Romania   | 115                   | 6 146                       | 2 120   |
| Serbia    | 70                    |                             |   |
| Slovakia  | 63                    | 11 224                      | 2 121   |

1) Annual Spending on Astronomy = 3 x Number of Astronomers x Average Annual Salary

### Statistics Potential Contribution to ESO

| Country   | Weighted NNI <sup>2</sup><br>average 2010-12<br>(billions of EUR) <sup>3)</sup> | Calculated share 2014 (%) <sup>4)</sup> | Calculated annual<br>contribution 2014<br>(MEUR) <sup>5)</sup> | E-ELT Special<br>contribution<br>(MEUR) <sup>6)</sup> | Special contribution<br>for accession 1<br>January 2015<br>(MEUR) <sup>7)</sup> |
|-----------|---|---|--|---|---|
| Bulgaria  | 30,8  | 0,30                                    | 0,5  | 0,6   | 3,4   |
| Croatia   | 32,7  | 0,31                                    | 0,5  | 0,6   | 3,6   |
| Estonia   | 14,2  | 0,14                                    | 0,2  | 0,3   | 1,6   |
| Greece    | 184   | 1.8                                     | 2.8  | 3.5   | 20.5  |
| Hungary   | 59,8  | 0,58                                    | 0,9  | 1,1   | 6,6   |
| Latvia    | 17,7  | 0,17                                    | 0,3  | 0,3   | 2,0   |
| Lithuania | 26,8  | 0,26                                    | 0,4  | 0,5   | 3,0   |
| Romania   | 111,4   | 1,07                                    | 1,7  | 2,1   | 12,4  |
| Serbia    | 24,0  | 0,23                                    | 0,4  | 0,5   | 2,7   |
| Slovakia  | 53,5  | 0,51                                    | 0,8  | 1,0   | 5,9   |

2) NNI:Net National Income.

3) NNI figures are estimated on NNI/GDP for countries where no OECD NNI data are available.

4) Percentage share is based on100% for the 15 ESO Member States in the EU.

5) Including 2% E-ELT increase.

6) Calculated share in E-ELT special contribution based on amount due 31.12.2014.

7) Planned value of ESO net assets without non-current (long term) liabilities is basis for calculation of accession fees.



- Front-line facilities at all wavebands;
- Large international teams ignoring borders;
- Large high-quality data sets available to all with good internet access;
  - Virtual Observatory tools;
  - Roadmap of Infrastructures.



Coordination with National Funding Agencies; Vision for local facilities: equipment upgrades, standard instruments, networking, coordination, complementary data, education, outreach;

Consortia on renovation of existing facilities at ESO La Silla Observatory and elsewhere;

Personnel for ESO and ESA, in-kind partnership.



# Topics for the Discussion: Pan European Networks of Mentors for MSc and PhD Students

- EAS in collaboration with ASTRONET will establish a network of contacts to experienced mentors;
- Mentoring @ low cost using electronic communication;
  - Female students @ male-dominated departments



### Topics for the Discussion: Exchange Visits for MSc and PhD Students

- Experience with front-line research and instrumentation;
- A few months working with experienced colleague;
- National programmes for collaboration with ESO and ESA;
- Return programmes using national and other resources;
- H2020 programmes ASTERICS, OPTICON, RADIONET.



# Topics for the Discussion: Writing Schools

#### Cooperation with A&A;

Preparation together with EAS & ASTRONET;

First paper is essential.



## Topics for the Discussion: Virtual Observatories

#### Access to archives;

How to work with the big data;

Reasonable IT equipment.



# Topics for the Discussion: National Telescopes: Pros. & Cons.

Used by the local community +

Easy access: ESO does not accommodate all reasonable projects;

Long term dedicated programs;

Local archives;

Modest astroclimate;

Funding problems;

Need of special instrumentation.



# Topics for the Discussion: National Telescopes: Way Forward I

- Communities with similar interests: how to find the most effective connections?
- Pool resources of funding providers towards a common project?
- Joint programs between partners in small and big countries?
- Support big pan-European projects, like space missions, from national resources?
  - More cooperation between small countries and with big projects?
  - Building joint instruments;
  - Use the infrastructure of ESO La Silla Observatory;
  - Put the medium-size telescopes to ESO La Silla.



### Topics for the Discussion: National Telescopes: Way Forward II

- Building joint instruments for small national telescopes in Europe?
- Improve the exploitation of existing telescopes in Europe?
- Use the infrastructure of ESO La Silla Observatory via agreements with ESO?
  - Move the medium-size telescopes to ESO La Silla?
- Construct new small telescopes on La Silla or elsewhere?