

A dark space background featuring a large, dark planet on the left side and a smaller, dark planet in the upper right corner. The background is filled with numerous small, white stars.

# Meeting Goals

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2010 Geant4 Collaboration Meeting  
@ ESA/ESTEC

# Preamble

- The number of user is rapidly growing and many of them use Geant4 for their mission critical works.
  - >2200 citations to our NIM paper, >1 citation a day
  - Immense number of users, diversities in user domains, user skills
  - More use-cases to come. More requirements to come.
- LHC has started. More data to come.
- >10 years of public releases
  - Another decade to come.

# Four keywords

- Usability
  - Credibility
  - Cooperativeness
  - Strategic planning
- 
- Goals not only for this collaboration meeting but goals for coming years.

# Usability - 1

- Examples
  - Some are obsolete, unmaintained
  - Some are irrelevant, unorganized
  - Too many code duplications
  - Large spread of individual/historical “styles”
  - Recommendations (e.g. use of phys. list when relevant) not clearly exposed/visible
    - How many different physics list files do we have in our examples?
- Documentation
  - Overhaul? New tool?
  - More cross-references to examples

# Usability - 2

- Physics lists
  - Do we need >70 physics lists plainly offered?
  - Better to categorize
    - Basic, extended, experimental
      - With users guide to tell how to extend/alternate
  - Physics lists (at least basic ones) must be configurable with variations/options
    - Activating an option (e.g. EM cuts, Radioactive Decays, biasing, fast simulation, etc.), rather than rewriting a physics list.

# Usability - 3

- Exception handling, warning messages
  - Unify format
    - Detectable by simple text search
  - Unify the use of G4Exception
    - Should not mix up detection of user's miss-use and catching G4 problems.
    - Severity
    - Error ID code
    - Documentation with potential cures

# Usability - 4

- Computing performance
  - Monitoring
    - Computing Performance Team
  - Improvements
  - Share tips (collaborators, users)
- Physics performance
  - Coverage
  - Monitoring
  - Documentation
  - Publication

# Credibility

- Bugzilla
  - Unattended bug reports
- HyperNews
  - Unattended postings
  - Anonymous email address
- Requirements tracking
  - We once had a tracking system.
  - Currently, we have just a PowerPoint file manually maintained for Technical Forum.
- Use-case document
  - When did we maintain it last time?



# Cooperativeness - 1

- Benefits of being a collaborator
  - More and regular publications/outreaches
  - Career paths for young collaborators
- Working together
  - Let's share duties!
    - Publication editor
    - System testing
    - Responding to trivial HyperNews questions
    - Documentation/example walkthrough

# Cooperativeness - 2

- Help ourselves.
  - We try to do our best to serve to user's community, but we also have to serve enough to our own collaboration.
  - Do we have enough communication?
    - To avoid code/effort duplication
    - To share information
      - What was said in conference
      - Opportunities
      - Issues, thoughts, solutions...

# Cooperativeness - 3

- We have scalability problem in user support. Our resource is not proportional to the number of users.
  - Organize experienced users.
    - Users workshop
    - Encourage experienced users to support novices.
    - Portal web page to user applications
    - Geant4 Jobs Wiki

# Strategic planning - 1

- Tools
  - CVS? SVN?
  - CLHEP?
- Architecture revision
  - Architecture review report is arriving.
  - We have to keep maintaining “current” code. Our resource is limited.
    - Architecture revision must be staged. Well-thought plan is mandatory.
    - Benefit driven, requirement driven.

# Strategic planning - 2

- We must keep meeting to ever-growing users' needs for another decade.
  - Long term resource allocation (manpower, computing, travel, teleconference, etc.).
  - Close communication with Oversight Board, funding agencies, sponsoring companies.
    - Effort of convincing our credibility
- 4 Category Coordinators had retired in past decade. Some others are “tired”.
  - Generation transition

# Let's discuss

- Face-to-face meeting is by far the best way.
- Session chairs, please allocate enough amount of discussion time.
- Coffee and lunch breaks, parallel to parallel sessions, evening meetings, etc., etc. Find opportunities for “non-scheduled” discussions.