COPELABS Scientific Productivity Planning and Assessment Guidelines
Executive Summary

This document describes how scientific productivity is planned and evaluated in COPELABS. The unit planning and assessment relies on two main tools: individual planning and assessment, developed by researchers together with the COPELABS group coordinators and Direction. An individual planning is performed each year, by the researcher. Then, by the end of the year, the researcher performs an auto-assessment and discusses such auto-assessment with its coordinator.

Such evaluation is essential to the full unit evaluation, which also occurs yearly, being results presented to all of the team. The productivity strategy also takes into consideration the external Advisory Boards – Scientific Advisory Board and Socio-economic Advisory Board - analysis of weaknesses and strengths.

This document is organized into 3 sections. Section 1 provides an overview on COPELABS scientific productivity individual planning and assessment methodology. Section 2 describes the awarding items and process, as well as how financial bonus are computed. Section 3 highlights aspects that are relevant to ensure that the proposed scientific success indicators are aligned with COPELABS bylaws and operational rules.
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1. Planning and Assessment Overview

The COPELABS planning and assessment methodology is intended to motivate COPELABS researchers in developing research towards COPELABS’s common and interdisciplinary vision. It is also expected to assist researchers (both individually and as a unit) to find an adequate balance between financial sustainability and top quality scientific productivity.

This strategy is supported by other tools such as the mandatory individual yearly planning, as well as assessment of the goals met each year. All assessment shall be developed together with each researcher and has as main goal provide enforcement only which shall be backed up by productivity and cooperation incentives.

Specifically, each researcher yearly presents to his/her group coordinator a specific planning document based upon the yearly planning assessment template provided via COPELABS intranet (egroupware), folder Templates. Then, by the end of the year, the researcher discusses an auto-assessment with his/her group coordinator. The individual evaluation of all members is then debated between the Direction and group coordinators, and the best researchers are awarded accordingly with the incentive scheme described in section 2.

Planning has as main purpose to set individual goals a researcher thinks he/she can achieve. Such planning is to be started in the beginning of each year. The assessment process allows to measure achievements on an individual level and to perceive one’s motivation level.

The reached productivity is backed up by incentives as described in section 2. Each team member is to be ranked in a 1-5 scale. Rating is to be based upon results achieved, both quantitatively and qualitatively and include all aspects of the team development, ranging from interim team organization activities (e.g., coordinating team meetings and Colloquia) to relevant targets in the team strategy (e.g., patenting and project acquisition). It should be remarked that results in COPELABS do not only relate to technical delivery. They also relate to individual involvement in COPELABS’s everyday life and different aspects of the innovation strategy.

With this approach, COPELABS expects to be successful in achieving a high rate of motivation and hence of top-level quality productivity.

1.1. Team Methodology

In order to assist in developing a unit effort, COPELABS coordinators shall apply a team methodology which observes the following aspects:

- Research Group Coordinators motivation. The coordinators shall meet regularly with their teams, being a maximum period of 15 days advise for such meetings. Such meetings should be dedicated to an analysis on ongoing work, risk assessment and management, as well as brainstorming about potential joint activities.
• **Team Motivation.** Team motivation shall be enforced by the following main tools: C-BRAINS; yearly technical retreat; COPELABS workshops.
  - **C-BRAINS:** C-BRAINS are held every two weeks, 1.5h and are open to the global R&D community. The series is organized yearly, in July, and different internal and external speakers are invited to the event. Topics to be discussed relate to the two main R&D tracks, Internet Science, and cyberpsychology. All COPELABS elements shall have to present at least once per year in C-BRAINS.. The main purpose of C-BRAINs, in addition to dissemination, is to improve communication and to aid in the development of the global critical mass.
  - **COPELABS Open Day.** Yearly COPELABS organizes an open day workshop, where all researchers shall be able to present ongoing research to peers and to potential partners/customers based on posters and demos of developed technology..

• **Individual researcher motivation methodology.** The process applied to develop individual motivation integrates three different components. The first implies regular and timely meetings within the researcher’s team. Secondly, the yearly productivity planning and assessment will be held in two meetings: one, directly between researcher and respective coordinator, who will then bring the individual auto-assessment to the Direction. Each researcher is expected to fill in the report provided in Form B and to send it by e-mail to his/her coordinator up to two (2) weeks before the meeting. The analysis both on the planning and on the achievements as well as on the expectations of each researcher can then be quantified for. Thirdly, productivity incentives (bonus) are also expected to assist in reaching optimal results both as individual researchers, and as part of a unit.
  - **Planning Ahead, setting goals to achieve.** Each year and until the end of January each researcher shall fill in Form B with a self-evaluation of the expected progress. Then, the researcher shall discuss such expectations with the respective team coordinator(s).
  - **Assessment: critical self-evaluation.** By the end of the year (December), the researcher shall fill in an assessment form based upon form B. The comparison between self-planning and the achievements shall be discussed with the coordinator of the team. Then it shall also be sent to the Direction who will rate each element individually. The purpose of this self-evaluation is merely intended as a way to motivate individual researchers, to allow them to grow as researchers, to understand and to circumvent limitations.
  - **Productivity incentives.** Based on the assessment and yearly productivity, each SITI researcher is to be rated on a scale of 1 to 5. Such scale simply serves the purpose to distribute yearly incentives as described in section 2, where 1 stands for the lowest level and 5 corresponds to the best rate level. Rating is based upon not only results achieved but also upon involvement from the researcher in the COPELABS day-to-day living. As described in table 6, different types of incentives shall be provided based upon the computed rating level, as explained next.
- **Levels**: 1 should correspond to not having filled exactly what was planned; 2 should correspond in average to having fulfilled exactly what was planned. 3, 4, 5 have to be differentiated according to specific rules and impact of the different success indicators to the SITI strategy.

- **Types of Incentives**.
  - The yearly productivity bonus relates to indexation provided in section 2.
  - Publication awards. As happens today, award per journal indexed in the WoS.
  - Project acquisition awards.
  - Client acquisition incentive.

- **Living in COPELABS**. The purpose is to immerse researchers in COPELABS. A methodology to apply is to make the C-BRAINs more appealing, e.g. presentation over coffee. Also, involving the COPELABS researchers in different aspects of the team strategy shall be pursued (e.g. web site, test bed, organization of events, invitation to participate in events).

- **Regular reporting**. Within each research group COPELABS advises regular team meetings (every week). Such meetings should be used to brainstorm around different topics. Moreover, each researcher is expected to fill in a Monthly Productivity Report (template available in COPELABS intranet, folder Templates) in a very summarized way. Once per month one of the research group meetings should discuss work of each researcher based on the provided form.
2. Individual Awarding, Rating and Evaluation

Table 1 provides a description of the productivity incentives considered in COPELABS. Based on the assessment and yearly productivity, each COPELABS researcher is to be rated on a scale of 1 to 5 by each member of the Direction board (five members). The proposed scale simply serves the purpose to distribute yearly incentives 1 stands for the lowest level and 5 corresponds to the best rate level.

*Table 1: Table of incentives.*

<table>
<thead>
<tr>
<th>Incentive</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly productivity bonus*</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Internal financing attendance of 1 event in the next year, of relevancy to COPELABS and in Europe – max 3 day stay</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Open Day Top Award</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2 days additional holiday</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Publication award</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>External Project acquisition award</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Client acquisition award</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
The final rate is provided by the Direction, as has been explained in section 1. The Direction meets to assess the productivity rating (together with the assessment). Each director shall fill in one specific form based on Table 2, and the researcher shall be provided with each of the individual evaluations by the Direction, together with the average grade achieved, based on all the points provided. Granularity of 0.25 is allowed. The 5 elements individual rating shall then be averaged and all individual scores shall be provided to the researcher.

As explained and shown in Table 2, all researchers independently of their grading are entitled to publication financial awards as follows:

- Journal publications indexed to the ISI Web of Science, 500 Euros equally split among all COPELABS authors. The bonus is to be provided after valid proof of publication (indexation in ISI).
- Conference publications, peer-review, acceptance rate between 0 and 30%, and indexed to the ISI Web of Science, 200 Euros split among all COPELABS authors, of which 60% is to be provided to the corresponding author. The bonus is to be provided after valid proof of publication (copy of conference proceedings).

Then, based upon the rating, researchers are also entitled to project acquisition financial awards:

- Project acquisition above 200,000 Euros: 500 Euros for the Principal Investigator (Investigador Responsável). A project is considered to be acquired after signature of the project agreement by all partners and after execution of the full value.
- Project acquisition between 200,000 Euros and 25k Euros, 1% of the overall COPELABS reimbursement budget for the Principal Investigador (Investigador Responsável). A project is considered to be acquired after signature of the project agreement by all partners and the award is computed based upon the executed value of the project.
- Client acquisition, 200 Euros, once the project is acquired (project agreement signed).

2.1. Rating Computation

Table 2 provides the indexation for the researcher rating which shall be used by the Direction to yearly rate researchers. Please note the following:

- In the context of the development of new evaluation instruments, measurement scales, etc., the researcher can count the indicator in A - Publications AND in H: Knowledge Transfer. For the latter, the paper must have at least 20 citations (proof of use of the scale or instrument).
- In what concerns publications (A, B): Only the first 3 authors of COPELABS are considered for the purpose of this methodology. The intention is to ensure that publications become diversified, and that all researchers publish work as main authors.
- Publication levels GOLD, SILVER, BRONZE are defined in Table 3.
- Knowledge transfer results are detailed for both CTIP and SITI in Table 4.
Table 2: PKIs.

<table>
<thead>
<tr>
<th>Weight</th>
<th>Item</th>
<th>Evaluation (1 to 5)</th>
</tr>
</thead>
</table>
| 35     | A., B: *Scientific Publication Indexing* *(A – Publications; B Conference Proceedings)* | 1 for no publication/no peer reviewed publication/ ISI indexed publication.  
2 for 1 SILVER publication.  
3 for 2 SILVER publications OR 1 GOLD publication.  
4 at least three publications, 1 of them GOLD.  
5 at least 4 publications, 2 of them GOLD. |
| 5      | D: *Event Organization, Scientific Committees; Technical Programme Committees Participation (D – Events and TPC’s)* | 1 for no event organization/scientific committee/TPC participation.  
2 for 1 scientific committee/TPC participation.  
3 for participation in 2 scientific committees/TPC participation.  
4 for participation in at least 3 scientific committees/TPC participation OR international 1 event organization.  
5 for participation in at least 4 scientific committees/TPC participation OR organization of 2 events. |
| 5      | E: *Advanced Training* | 1 for no ongoing/concluded PhD nor 1 concluded M.Sc.  
2 ongoing MScs.  
3 concluded MScs  
4 ongoing PhDs. |

1 Technical Programme Committee.
<p>| | | |</p>
<table>
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<th></th>
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</thead>
</table>
| 5 | **F, G: Software Development** | 1 for no software developed.  
2 for a simulator extension.  
3 for setting up a testbed.  
4 for a proof-of-concept (software running).  
5 for a prototype (e.g. application on GoogleApps). |
| 10 | **H: Knowledge Transfer** | 1 for no knowledge transfer.  
2 at least one Bronze knowledge transfer item.  
3 at least two BRONZE or 1 Silver knowledge transfer item.  
4 at least two SILVER or 1 Gold knowledge transfer item.  
5 at least 2 GOLD knowledge transfer items. |
| 10 | **I, M, N: Participation in the COPELABS strategy**  
(involvement in events, working in testbeds, servers, experimental protocols, lab intensity, collaboration in interdisciplinary research, etc.) | 1 for lack of involvement (e.g. continuously missing COPELABS events or regular events) – 0-29% .  
2 for 30%-50% involvement.  
3 for 51%-69% involvement.  
4 for 70%-80% involvement.  
5 for at least 81% involvement. |
| 10 | **K: Project proposition involvement or coordination** | 1 for no project proposal.  
2 for 1 project proposal involvement - (team member).  
3 involvement at least in two project proposals (team member).  
4 coordination of 1 proposal (coordinator). |
<table>
<thead>
<tr>
<th>Publication level</th>
<th>SITI</th>
<th>CTIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>Journal, Book, Book Chapter</td>
<td>Journal</td>
</tr>
<tr>
<td>Silver</td>
<td>Conference proceedings</td>
<td>Conference Proceedings, Books, Book Chapters</td>
</tr>
</tbody>
</table>

Table 3: Publication Levels.

<table>
<thead>
<tr>
<th>Knowledge Transfer level</th>
<th>SITI</th>
<th>CTIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>Spin-off, Patent</td>
<td>Spin-off</td>
</tr>
<tr>
<td>Silver</td>
<td>Patent pending/Patent application, IETF RFC, IETF group draft or equivalent.</td>
<td>New evaluation instrument, measurement scales already adopted in the R&amp;D community</td>
</tr>
<tr>
<td>Bronze</td>
<td>IETF/3G draft, Brand, trade mark registered/provided, individual IETF or IRTF draft.</td>
<td>New evaluation instrument, measurement scales proposed and not yet adopted</td>
</tr>
</tbody>
</table>
2.2. Financial Bonus Computation

- **Conditions to apply:** researcher must have completed at least 6 months of the evaluation period and must have at least reported once during such period.

Productivity Bonus Computation is provided by the following formula: $Netto\ monthly\ salary^2 * incentive\ rate * attendance\ rate$,

*Where*

- Attendance rate = service months during the evaluation period / 12.
- Incentive rate is provided in Table 3.

<table>
<thead>
<tr>
<th>Rating</th>
<th>1-1.9</th>
<th>2-2.9</th>
<th>3.0-3.4</th>
<th>3.5-3.9</th>
<th>4.0-4.4</th>
<th>4.5-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentive rate</td>
<td>0</td>
<td>1%</td>
<td>20%</td>
<td>30%</td>
<td>50%</td>
<td>100%</td>
</tr>
</tbody>
</table>

3. Success Indicators, Guidelines to Observe

COPELABS provides specific criteria for the definition of integrated members, described in its internal regulation (article 3, Associates). Such criteria concern only peer-reviewed indicators which are indexed to the ISI Web of Science repository.

Members in COPELABS are categorized into invited researcher; junior researcher; senior researcher. Integrated members reflect the set of senior researchers and researchers only, being the following criteria applied in COPELABS:

- Integrated members known as senior researchers hold a PhD for at least three years and contribute to COPELABS goals with at least four scientific productivity indicators in the last three years, where the success indicators follow FCT rules.

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2 The yearly productivity formula considers as “netto monthly value” the netto value in Euros that COPELABS monthly pays a researcher. For the case where researchers have no agreement to work with COPELABS, it is considered that this netto monthly value corresponds to four hours of dedication of teaching service, according with ULHT rules and following the protocol established between COFAC and COPELABS.
• Integrated members known as researchers hold a PhD and contribute to the goals of COPELABS with at least two success indicators in the last three years, where the success indicators follow FCT rules.

Success indicators both from a quantitative and qualitative perspective shall be the basis for guidelines of productivity assessment. All COPELABS researchers are expected to fill in both the monthly activity report and to provide a self-planning and self-evaluation based on these indicators, documents for which templates are available in the COPELABS intranet, Templates folder.

In terms of quantitative measures, the success indicators in COPELABS should observe the following:

• For publications in journals/magazines the Thomson Impact Factor shall be considered.
• For conferences the acceptance rate guidelines shall be considered – only conferences with an acceptance rate between 0 and 30% and indexed to the ISI Web of Science shall be awarded from a financial perspective.
• For projects, dimension, budget, number of partners and business/strategy relevance for COPELABS shall also be considered as qualitative indicators.
4. References

[1] COPELABS Website, 
http://copelabs.ulusofona.pt/

[2] COPELABS bylaws, 

[3] FCT – Fundação para a Ciência e Tecnologia, 

[4] COPELABS Scientific Commons, 
http://copelabs.ulusofona.pt/scicommmons/