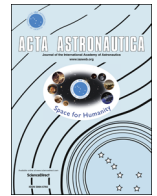




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# Methods for promoting knowledge exchange and networking among young professionals in the aerospace sector—IAF's IPMC workshop 2013 insights<sup>☆</sup>



Amalio Monzon<sup>a</sup>, Tiffany Chow<sup>b</sup>, Paul Guthrie<sup>c</sup>, Zhuoyan Lu<sup>d</sup>,  
Constant Chuma<sup>e</sup>, Huang He<sup>f</sup>, Sergii Kuzkov<sup>g</sup>

<sup>a</sup> Airbus Group, United Kingdom

<sup>b</sup> Secure World Foundation, United States

<sup>c</sup> The Tauri Group, United States

<sup>d</sup> University of Lapland, Finland

<sup>e</sup> National University of Science and Technology, Zimbabwe

<sup>f</sup> Northwestern Polytechnical University, China

<sup>g</sup> NAS of Ukraine, Ukraine

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## ABSTRACT

During the next decades, the aerospace community will pursue goals such as human exploration beyond the Moon, commercialization and cost reduction of space activities or sustainability of air transport and space operations, bringing relevant economic, environmental and social benefits to the society. Young professionals development is a critical success factor to enable these goals and in consequence is an area of significant interest. This paper focuses on the methods for promoting knowledge exchange and networking among Young Professionals. On the one hand, it analyzes the different activities currently used for that purpose by the organizations of the sector as well as explores the opportunities to reinforce these methods. On the other hand, it presents the results of a survey addressed to Young Professionals and aimed at identifying their needs, expectations and benefits perceived in relation with these activities. This study was conducted as part of the IAF's (International Astronautical Federation) IPMC (International Programme/Project Management Committee) Workshop held during the International Astronautical Congress (IAC) 2013 in Beijing, whose objective was to provide Young Professionals a forum to share experiences and to discuss ideas and needs, and which counted with more than fifty delegates representing IAF member organizations from all around the world.

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## 1. Introduction

From 2012, the IAF's IPMC organizes an annual workshop aimed at gathering inputs from young professionals

in the international space community to gain the knowledge required to better develop and empower the next-generation workforce. The IPMC Young Professionals Workshop brings together delegates from agencies, industry and academia from all around the world to discuss about relevant topics for the mentioned purpose. In 2013, Beijing hosted its second edition, which addressed topics such as mentorship programs, exchanges and rotational assignments, knowledge exchange, networking, on the side projects and tools and methodologies for project

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E-mail addresses: [amalio.monzon-vazquez@airbus.com](mailto:amalio.monzon-vazquez@airbus.com) (A. Monzon), [tchow@swfound.org](mailto:tchow@swfound.org) (T. Chow), [paul.guthrie@taurigroup.com](mailto:paul.guthrie@taurigroup.com) (P. Guthrie), [zlu@ulapland.fi](mailto:zlu@ulapland.fi) (Z. Lu), [chumac80@gmail.com](mailto:chumac80@gmail.com) (C. Chuma), [huanghe1984@nwpu.edu.cn](mailto:huanghe1984@nwpu.edu.cn) (H. He), [skuzkov@mao.kiev.ua](mailto:skuzkov@mao.kiev.ua) (S. Kuzkov).

management. In order to maximize the value of the inputs gathered the delegates work in groups, which develop prior the workshop a one-month-research on the assigned topic. At the beginning of the session, each group shares its results with the rest of the delegates being further discussed during the day. Finally, the groups include the main contributions and insights compiled, and present their conclusions.

This paper, presents the work on the methods to promote knowledge exchange and networking among young professionals in the aerospace sector developed during the 2013 workshop and is structured in three main chapters: existing methods, opportunities to reinforce them and needs, expectations and benefits perceived from young professionals.

## 2. Methodology

The methodology followed in each of the parts of the study was selected based on the availability of information for the topic studied in public sources as well as on the workshop structure. As result of that, the existing methods were identified through an internet research on key organizations of the aerospace sector, the opportunities to reinforce them were identified and analyzed by the workshop delegates based on their experience and background, and the needs, expectations and benefits perceived were compiled by means of a survey targeted to Young Professionals.

### 2.1. Methodology followed to analyze existing methods for promoting knowledge exchange and networking

In order to analyze the existing methods for promoting knowledge exchange and networking, it was decided to focus on the most relevant organizations of the aerospace sector. Nevertheless, this initial question has not a straight answer. As defined by the “OECD Handbook on Measuring the Space Economy” [1] the principal actors in the Space sector can be classified in business enterprises (eg. companies), public actors (eg. space agencies, technology centers, etc.) and higher education actors (eg. universities, research institutes, etc.). A valid criterion to identify the most relevant organizations could be selecting the major organizations in terms of workforce within the mentioned categories. However, as referred in the OECD report “The Space Economy at a Glance 2011” [2], the lack of harmonize statistical data on employment in the Global Space sector (sectors of activity merged in the available statistics, different counting methods and insufficient detail and quality of the data sources) makes difficult to take this approach. To handle with this difficulty, the study was focused on the major business enterprises working in the aerospace sector in terms of revenues and on the space agencies of those countries, which receive the biggest budgets for Space activities. In the first case, the major business enterprises in terms of revenues were identified following the results of the PwC “Aerospace and defense 2012 year in review and 2013 forecast” [3], whose top 15 companies represented more than two thirds of the

revenues of all the companies addresses in the mentioned report in 2012. In the second case, the space agencies of those countries with major space budgets were identified through the OECD “Handbook on Measuring the Space Economy” [1] (Table 1).

The top 7 countries identified by this report represented 99% of the budget of the G20 countries in 2010 (Table 2).

Once the top organizations to focus on were selected, a research on the information available in their annual reports and websites about their knowledge exchange and networking activities was performed, classifying the existing methods in eight different categories.

The categories analyzed in accordance with the information found available were the following ones:

- (1) International assignments.
- (2) Rotational assignments.
- (3) Management and development trainings.
- (4) Tuition assistance.
- (5) Conference, meetings and workshops.
- (6) Mentoring and coaching.
- (7) Peer-to-peer exchange.
- (8) Networking.

Moreover, the considered most representative programs available were identified and a benchmark

**Table 1**

Top 15 business enterprises working in the space sector in terms of revenues 2012.

Company	Revenue US\$ millions
Boeing	81,698
EADS	72,587
Lockheed Martin	47,182
General Dynamics	31,513
United Technologies	29,089
BAE System	28,263
Northrop Grumman	25,218
Raytheon	24,414
Finmeccanica	22,128
GE Aviation	19,994
Rolls Royce	19,273
Thales	18,196
Safran	17,427
L3 Communications	13,146
Honeywell Aerospace	12,040
Total	462,168

**Table 2**

Space agencies of the top 7 countries in terms of space budgets 2010 as per OECD “Handbook on Measuring the Space Economy” [1].

Country	Budget US\$ millions	Space agency
US	43,600	NASA
China	6502	CNSA
EU	6294	ESA
Japan	3551	JAXA
Russia	2665	Roscosmos
India	1193	ISRO
Canada	338	CSA
Total	64,163	

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