



Strategy for Industry Relations

A Farina, May 4th 2013, Ottawa

IEEE AESS BoG meeting

Key questions:

- ▶ Which are the **reasons and benefits** to be a member of IEEE AESS for Employees from industries?
- ▶ Which are the **benefits** from Industry view point to be part of the process to form and participate in an IEEE AESS Chapter?



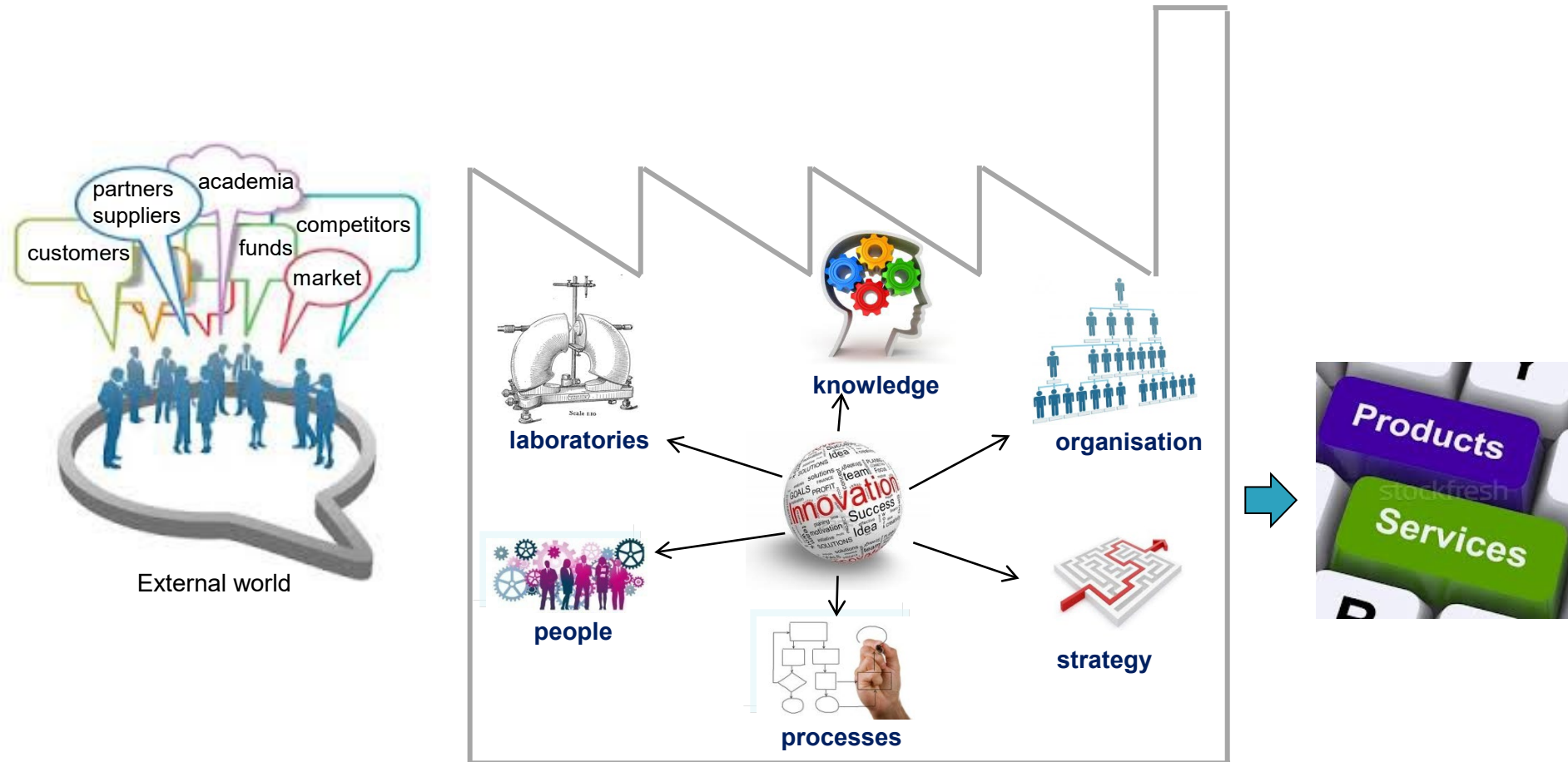
Potential Replies

Conceive a model of typical “AESS” industry and capture where IEEE AESS can play a role (vignette)

Identify the services IEEE AESS can provide:

- a) Role of **innovation** (vignette)
- b) Help identify general guidelines to foster/develop innovation
- c) Objective measure of innovation (source EC scoreboard etc) (vignette)
- d) **Technology watch** through widest source of peer reviewed and trusted technical publications from wide spectrum on journals, conferences, tutorials, leading experts lectures etc.

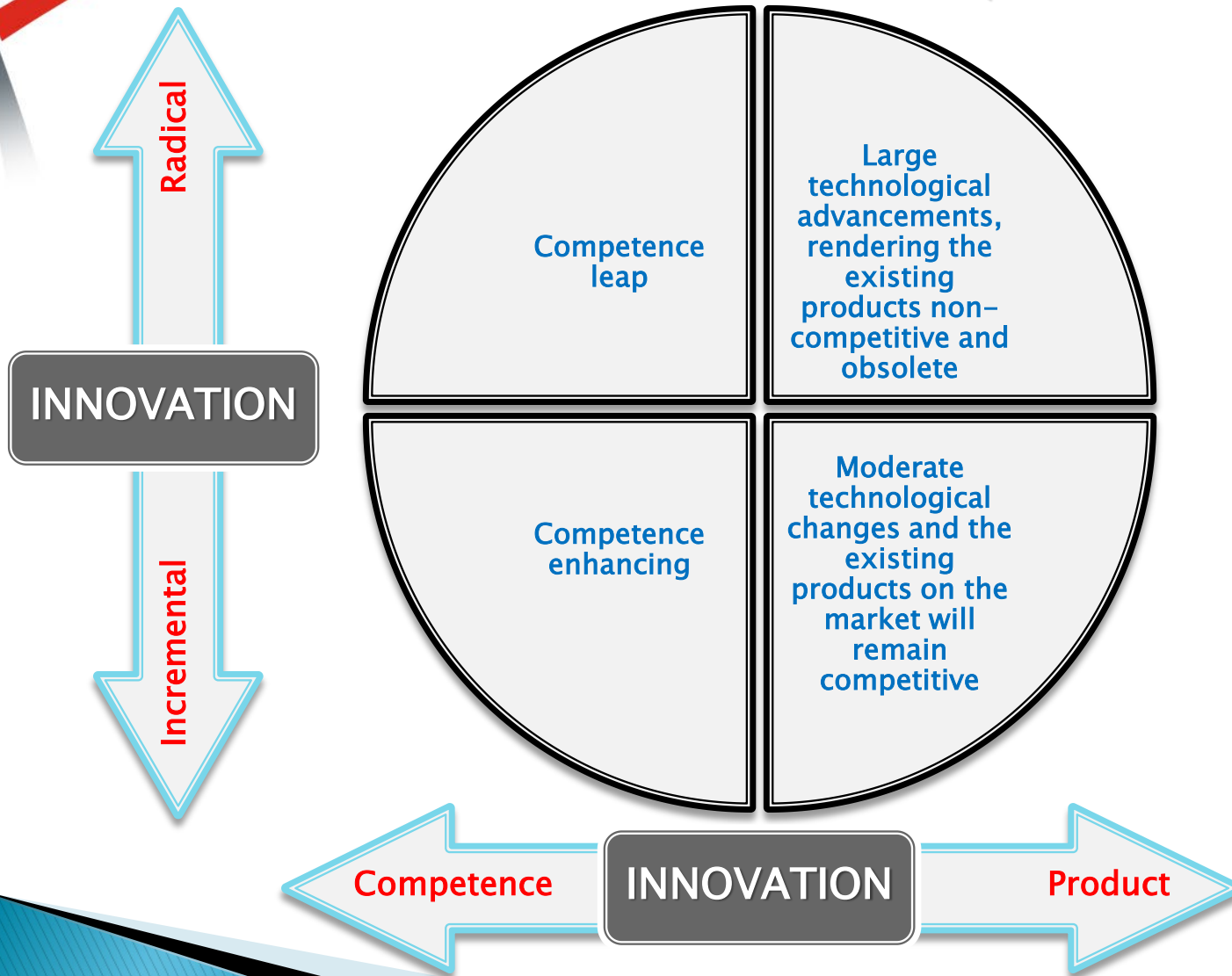
A Company as a Multiple Inputs Multiple Outputs (MIMO) system



MIMO = Multiple Inputs Multiple Outputs

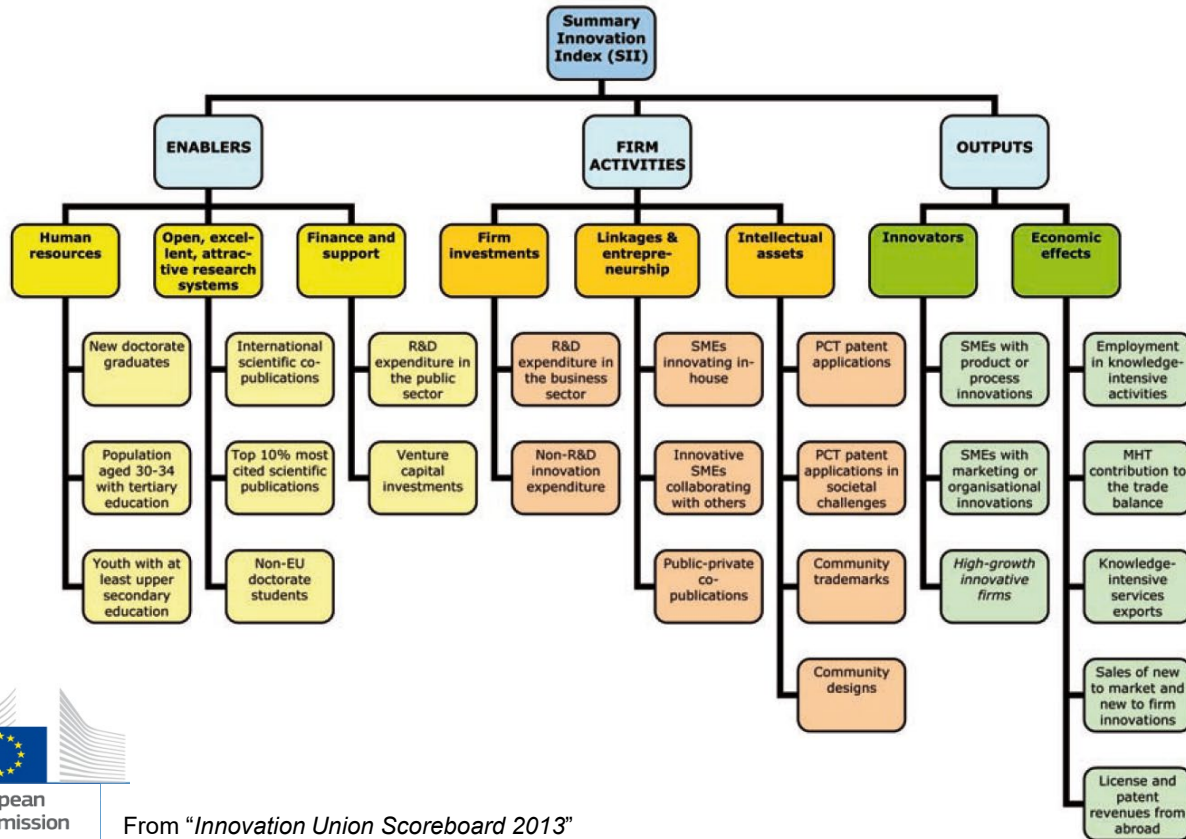
$$f(\text{MIMO, Values, Innovation}) = (\text{Products, Services}) \rightarrow \text{€ Revenues, Orders, Costs, EVA}$$

Discontinuous (radical) vs continuous (incremental)



How to measure Innovation

Figure 1: Measurement framework of the Innovation Union Scoreboard



From "Innovation Union Scoreboard 2013"

A guideline to measure and monitor Innovation



- e) Highlight and promote the relevance of **collaborative working** (vignette) and **co-opetition** (vignette) in developing joint international programs
- f) Collect (open published) **strategic plans**, **technology plans**, opinions by renowned experts, recent conference in London on the planet great challenges
- g) Libraries of top articles (most quoted/most downloaded etc.)
- h) Widest source of peer reviewed and trusted **technical publications** from wide spectrum of journals, conferences, tutorials, leading experts lectures etc.
- i) Libraries of **top patents**

Exchange of ideas

Sharing of Innovations

*“If you have **an apple** and I have **an apple** and we exchange these apples then you and I will still each have **one apple**. But if you have **an idea** and I have **an idea** and we exchange these ideas, then each of us will have **two ideas**.”*

George Bernard Shaw

Co-opetition: an innovative mindset that combines Competition and Cooperation



*“You have to
compete and cooperate
at the same time”,*

Ray Noorda (1924-2006), Novell



Co-opetition is made of two elements: co-operation and competition.

Co-opetition entails comparing diverging opinions.

Co-opetition is the type of collaboration that is currently performed by the LHC (Large Hadron Collider) experiments at CERN (Conseil Européen pour la Recherche Nucléaire, Geneva, Switzerland) in innovative major activities like the Higgs boson search.



l) Contribute to improve the **international image of the Company** and of his employees via their presence in the largest professional technical organization in the planet

m) Work in progress to establish a **webpage on “Industry relationship”**.



It will be called by the main IEEE AESSTM webpage.

It will help members to feel within their technical home.

It will contain at least the **following topics** (accessible via “buttons”)



Web entries 1/4

- ▶ AEISS Industry vision
- ▶ Technology watch (IEEE AEISS journals and conferences, EC Cordis, News of R&D, etc.)
- ▶ Library with the best papers (awarded/most downloaded) and link to other library sources
- ▶ Library with best patents
- ▶ Links to general sites on patents and IPR policies
- ▶ Strategic technology plans from Agencies, Industries etc.
- ▶ News on standards
- ▶ Workshops and conferences



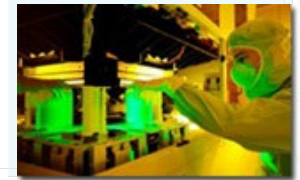
Web entries 2/4

- ▶ Methods to foster major innovations and how they may impact on the economic indexes with which the companies are measured
- ▶ Focus on methodologies of collaborative works (based on current technical literature and own professional experiences; best study cases etc.)
- ▶ Focus on the new mindset called “co-opetition”
- ▶ Award corner
 - IEEE AEISS Technical awards
 - F. Nathanson
 - W. White
 - B. Carlton
 - H.R. Mimno
 - D. Picard medal



Web entries 3/4

- ▶ “Outstanding organizational leadership award”
(E. Gangl presentation)
 - Motivation
 - Rules
 - Dates
 - Type of award (plaque, cash, etc.)
- ▶ Kid corner
 - ▶ Science festival with IEEE AEISS show booths
 - ▶ Mentoring
- ▶ Student corner
 - ▶ As above
 - ▶ Networking/guided visits to industry labs
- ▶ Academia corner
- ▶ Corner of international organization in Aerospace (to capture new members and to teaming with them) (vignette)



ASD



Profile

ASD is the Association that represents the interests of four European industries



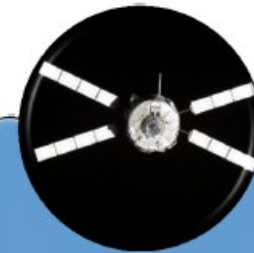
Aeronautics



Defence



Security



Space

€171 billion 730,000 employees 2,000 companies 80,000 suppliers

AIAD



- ❧ AIAD is the Italian Industry organization, member of Confindustria. It is a private non-profit organization, financed by its Member Companies.

- ❧ It represents High Technology Italian Industry almost in its entirety, for the design, construction, research and service of products destined to institutional or similar customer in the following sectors:
 - Civil and Military aerospace,
 - Military Land and Naval,
 - Electronic Systems and Equipment.

- ❧ Since February 2009, in order to fulfil the requests of Confindustria and to improve its level of representation, AIAD changed its name, while maintaining the same acronym and logo (AIAD), to become "Federation of Italian Companies for Aerospace, Defense and Security".

AIAD is member, of the European Association (ASD). It represents the proper interface with all national and international institutions aiming to coordinate any action requiring a collective expression of the relevant national interests.



Web entries 4/4

- ▶ Corner of top 20 Companies ([vignette](#))
- ▶ Chapter corner
- ▶ Virtual talking room
- ▶ History corner (Museum, etc.)
- ▶ Become a member of AESS
- ▶ Links to other pages of AESS
- ▶ Return to AESS main web page

- ▶ **Work is in progress** (comments/suggestions by all welcome)
- ▶ To be presented in the release 1.0 at the next BoG meeting to be finalized, approved and, eventually, uploaded

Candestic Top 20 Aerospace & Defence Companies 2012 Sales-based

 **Candestic**

**THE WORLD'S TOP 100
AEROSPACE & DEFENCE
COMPANIES**



2012

September 2012

Rank	Company	Home Country	A&D Sales 2011 (or latest available) (mil USD)	A&D Sales in % of Total Sales	A&D Defense/Government Sales (%)	Ownership Type	Main Shareholders (>5%)	Selecte d Shareholdings and Subsidiaries
1	Boeing	USA	68,735	100%	45%	Public	State Street (13.9%), Evercore Trust (9.6%), Capital World (5.9%), BlackRock (5.6%)	Alleon, Avial, Jeppesen, United Launch Alliance (50%), Argon ST
2	EADS	France, Germany, Spain	68,310	100%	25%	Public	Sogeaide (22.4%), Daimler (22.4%), SEPI (5.5%)	Airbus, Eurocopter, Eurofighter (67%), ATR (50%), Dassault Aviation (46%), MBDA (37.5%)
3	Lockheed Martin	USA	46,499	100%	99%	Public	State Street (19.8%), Capital World (12.9%), Mass FSC (5.7%), BlackRock (5.37%)	Sandia, United Launch Alliance (50%), AWE ML (33%)
4	General Dynamics	USA	32,677	100%	80%	Public	Northern Trust (9%), Longview (9.3%), Capital Research (5.5%), BlackRock (5.4%)	Bath Iron Works, Gulfstream Aerospace, Electric Boat, NASCO, Force Protection
5	BAE Systems	UK	28,488	100%	95%	Public	Invesco (12%), BlackRock (5.1%), AXA (5%)	MBDA (37.5%), Eurofighter (33%), Delica, Atlantic Marine, L-11SG, Stralsec, ETI, Norfolk, OASYS
6	Northrop Grumman	USA	26,412	100%	95%	Public	State Street (11.8%), Capital World (5.9%), BlackRock (5.7%), Capital World Investors (9%)	EuroHawk GmbH (50%), Remotec, Scaled Composites, Spirit Man
7	Raytheon	USA	24,857	100%	95%	Public	BlackRock (7.1%), Barrow, Hanley, Mewhinney & Strauss (5.2%)	Thales Raytheon Systems (50%)
8	United Technologies	USA	24,440	42%	50%	Public	State Street (12.2%), BlackRock (5.8%)	Pratt & Whitney, Hamilton Sundstrand, Sikorsky, Rocketdyne, Engine Alliance (50%), IAE (61%)
9	Finmeccanica	Italy	20,640	82%	80%	Public	Italian Government (30.2%)	DRS, Alenia Aeronautica, AgustaWestland, Belpac Galileo, Saifex S.I., Telespazio (67%), MBDA (25%)
10	General Electric	USA	18,900	13%	25%	Public	BlackRock (5%)	CFMI (50%), Engine Alliance (50%)
11	Safran	France	16,510	100%	20%	Public	French Government (30.2%), Employees (16%)	Snecma, Hispano-Suiza, Labinal, Turbomeca, Sagem, CFMI (50%)
12	Thales	France	16,304	90%	60%	Public	French Government (27%), Dassault Aviation (26%)	Alcatel Alenia Space (57%), Thales Raytheon Syst. (50%), Diehl Aerospace (49%), DCNS (35%)
13	L-3 Communications	USA	15,189	100%	90%	Public	Vanguard Group (5.5%), Harris Associates (5.3%), Clearbridge Advisors (5.1%)	Narda, MPRI, Wescam, Funa Int'l, Vertec Aerospace, Insight Technology, Titan
14	Rolls Royce	UK	12,516	89%	30%	Public	Invesco (5.9%), BlackRock (5%)	ITP (47%), Europrop (28%), MTR (33%), Eurojet (33%), AirTanker (20%)
15	Honeywell International	USA	11,475	31%	45%	Public	State Street (10%), BlackRock (5.4%)	IGS (50%)
16	Bombardier	Canada	8,594	47%	0%	Public	BombardierBeaudoinfamily (QC) (54.3%)	
17	Textron	USA	8,387	74%	50%	Public	FMR (9.9%), T Rowe Price (9.2%), BlackRock (5.1%), The Vanguard Group (6%)	Bell, Cessna, AAI
18	Goodrich	USA	8,075	100%	30%	Public	None (over 5%)	Rohr, TEAC Aerospace, Goodrich-Messier (50%), RR Goodrich Engine Control Systems (50%)
19	SAIC	USA	7,729	73%	100%	Public	Vanguard Fiduciary Trust Company (16.9%), BlackRock (5%)	
20	Huntington Ingalls	USA	6,575	100%	100%	Public	State Street (9.5%), Pennant Capital Management (8.9%), Hotchkiss and Wiley (8%)	Newport News Shipbuilding, AMSEC

'Industry Relations web page' – DRAFT

AESS
IEEE AEROSPACE & ELECTRONIC SYSTEMS SOCIETY
IEEE

HOME
ABOUT THE AESS
CONFERENCES
EDUCATION
MEMBERSHIP
PUBLICATIONS
TECHNICAL OPERATIONS

INDUSTRY RELATIONS

Why AESS

A large percentage of AESS members is from industry but it is big the relevance of the members from academic: professors, PhD students, and research centres (e.g.: National Council of Research, Istituto Italiano di Tecnologia).

The strong relation existing between AESS and most important Aerospace and Electronic Industries made AESS the best place to take advantage of the cooperative capabilities offered by Academy and Industry.

We are seeking now for new potential members and we encourage your participation from BRIC and Arabic countries. You are invited to have a better understanding about our vision guidelines, check the content of the following:

AESS Industry vision

We are willing to face new technical challenges as, for example, the ones related to the future of radar, the role of software resilience in large systems, the role of new materials and we want to be able to tackle the design of complex system via collaborative working. If you are interested in this fields and want to be involved in the loop consider to join AESS today.



V.P. Industry Relations A.Parina

Join AESS

Still looking for good reasons to join?
Here you can find a list of good reasons:

Aerospace Best Patents

QE Prize Awards

News on R&D

News on Standards

Strategic Plans from Agencies

European Community - Cordis

Workshops

Radar Museum

Student Corner

Academia corner

We are looking for you: become a member today!

Become a Member of AESS NOW

Being a member of the community is a great opportunity for students: check the sales-based list of the TOP 20 Aerospace Industries. Qualified people are always welcomed in Industries environments and can find great job opportunities in connection with the AESS activities. You can find a list of available job opportunities [here](#).

TOP20 Aerospace Industries

Search

Search this site:

Announcements

Meeting Announcement - Ottawa AESS and IEEE Section - FAA Next Generation
Thursday, March 7, 2010 - 14:44

"Call for Nominations" for the McGleba Award
Tuesday, March 5, 2010 - 02:54

Hugh Griffiths is awarded the A F Harvey Engineering Research Prize
Sunday, January 16, 2010 - 09:57

1 of 3

Calendar

April

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Conclusions

- ▶ **Section** on the “Relations with Industry” will be compiled for the “IEEE AESS Strategic Plan”.
- ▶ **Web page** will be completed too. Please consider the opportunity of setting up a 3rd level domain for the Industry relations web pages (i.e.: <http://industryrelations.ieee-aess.org/>).