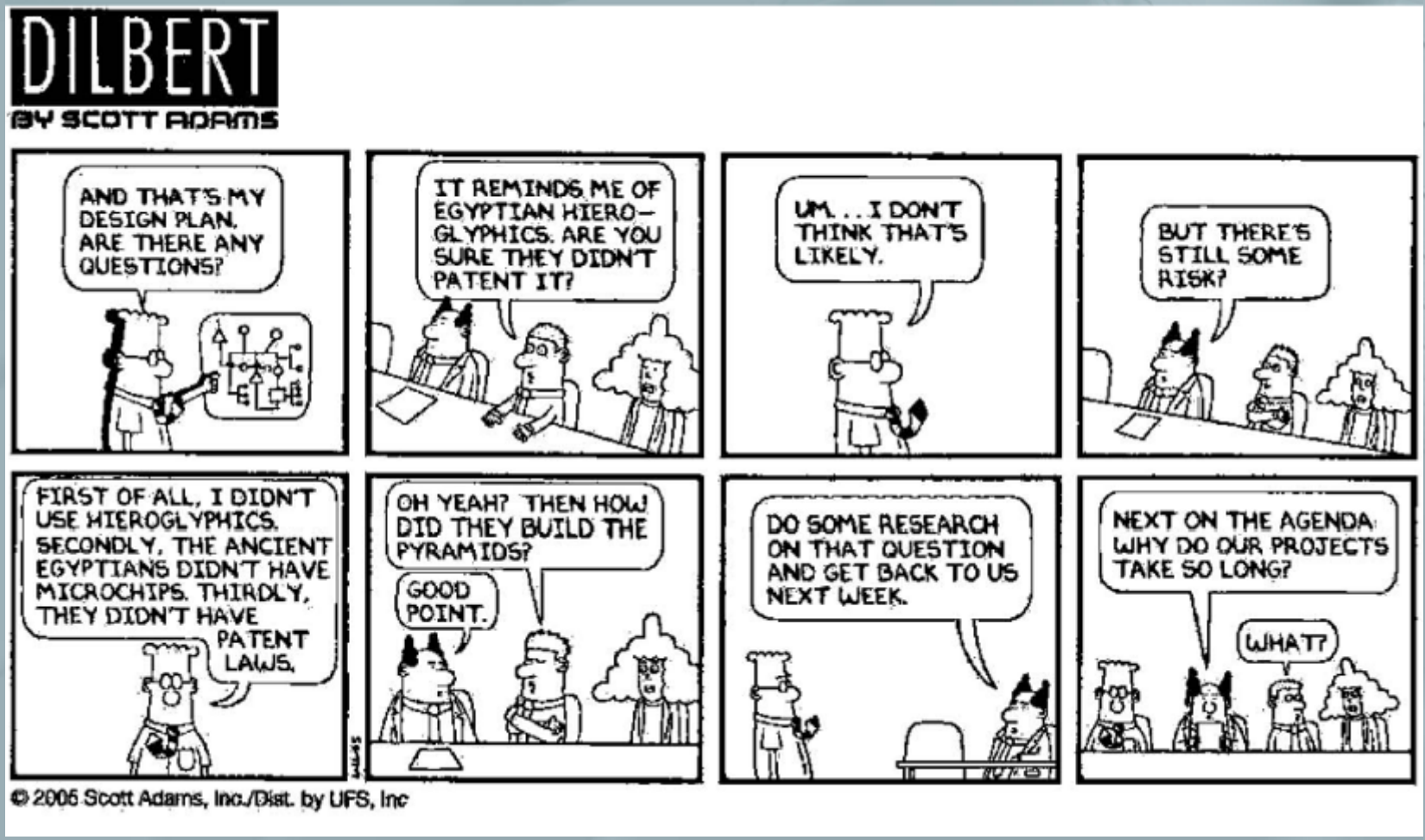
Intellectual Capital and Expertise Management

Dr. Jean Botti – EADS Chief Technical Officer

The World Conference on Intellectual Capital for Communities

May 22-23, 2008; World Bank Office, Paris

What does Dilbert tell us about Patents?



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EADS at a glance

The EADS Chief Technical Officer (CTO)

Finance
Hans Peter Ring

Marketing, Strategy & Global Development
Marwan Lahoud

Chief Technical Officer
Jean Botti

EADS North America
Ralph Crosby Jr.

Human Resources
Jussi Itävuori

Rüdiger Grube
Chairman of the Board of Directors

Louis Gallois
Chief Executive Officer

Airbus

Tom Enders

Military Transport Aircraft

Carlos Suárez

Eurocopter

Lutz Bertling

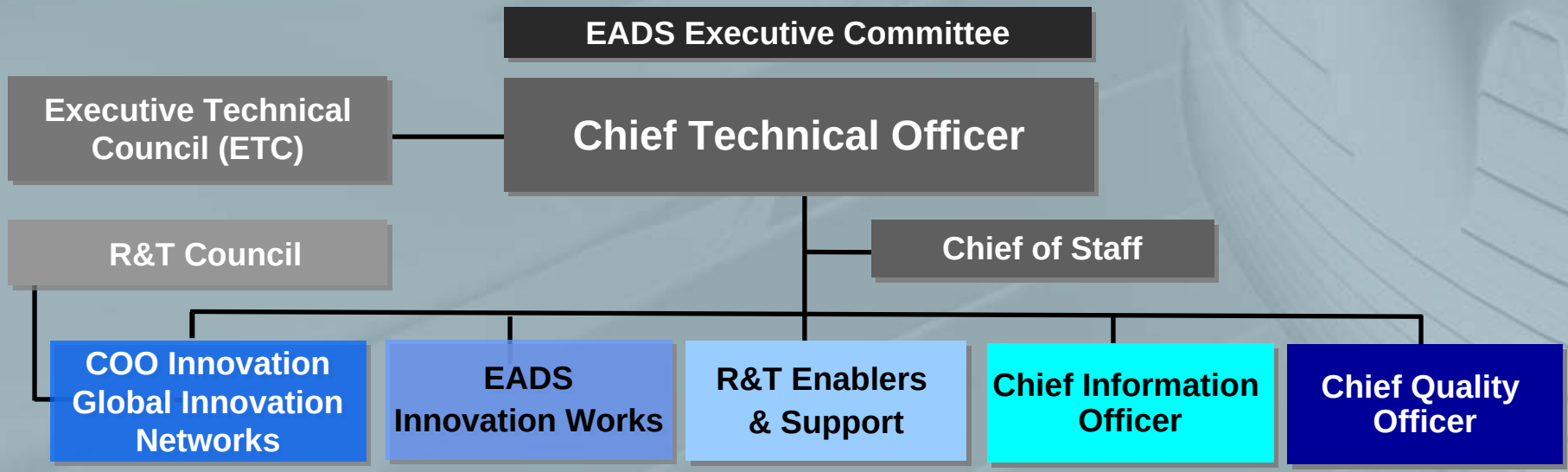
Astrium

François Auque

Defence & Security Systems

Stefan Zoller

EADS Corporate Technical Office - Organization



CTO Accountabilities:

The EADS R&T Strategy

The EADS R&T Operative Plan

The EADS R&T Annual Budget

Independent Technical Assessments

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Executive Technical Council (ETC)

Chief Technical Officer

R&T Council

Chief of Staff

COO Innovation Global Innovation Networks

EADS Innovation Works

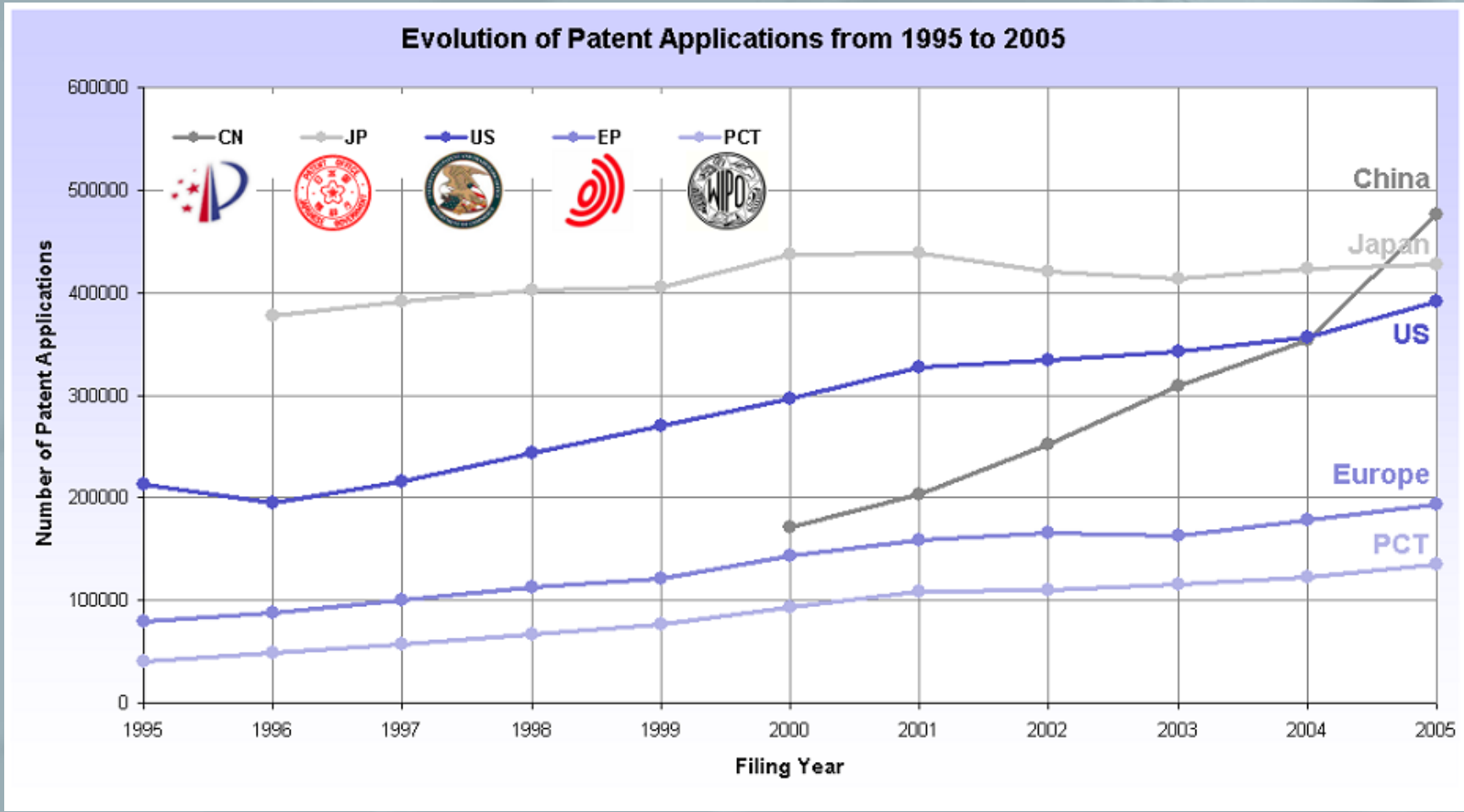
R&T Enablers & Support

Chief Information Officer

Chief Quality Officer

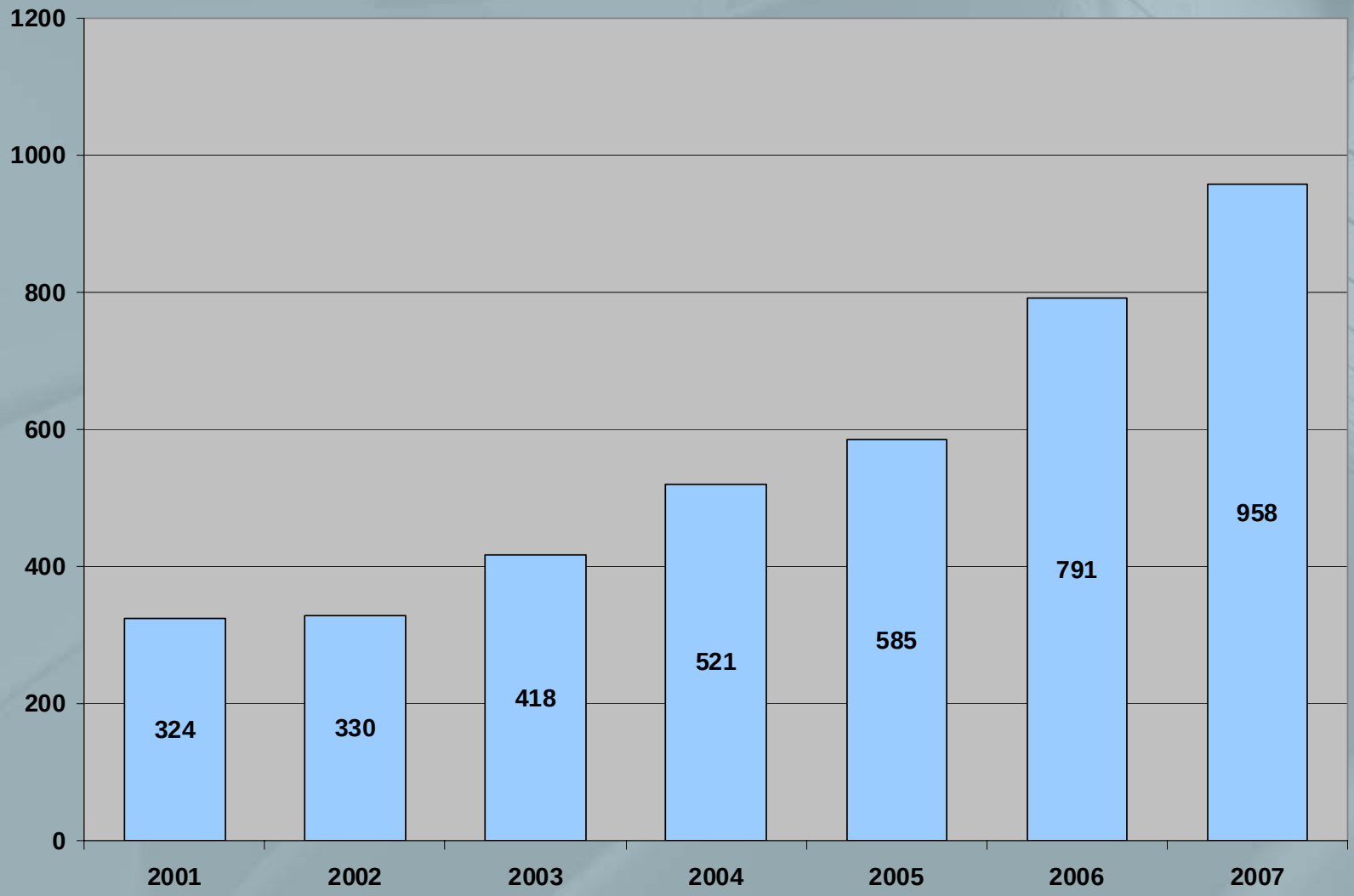
- **Strategy & New Business**
- **Public National & European Programmes**
- **Intellectual Property**
- **Finance & Contracts**
- **Knowledge Management**
- **Technical Communication**

Patent Filings at the ‘Big 5’ Patent Offices



Since 2005, the biggest patent office in the world is in China!

EADS First Filings



Aerospace & Defense Patent Scorecard in 'The Wall Street Journal'

EADS is moving up: from 9th (Apr '07) to 4th position in 2008. More to come in 2008!

The Patent Board™

Technology Strength™	Company / Concern	Patent Count*
13-Week Average	Includes subsidiaries & majority-owned companies unless noted	
378.03	Boeing Co	426
320.35	Lockheed Martin	312
134.09	General Electric Co	163
110.53	EADS/Euro Aero D&S	161
108.26	Northrop Grumman	159
103.81	Raytheon Co	130
80.52	BAE Systems Plc	103
77.36	United Technologies	116
66.68	Rockwell Collins Inc	51
66.01	Honeywell Intl Inc	77

Industry Impact™ | Research Intensity™ | Innovation Cycle Time™

* Compiled with data through March 28, 2008 and is based on 13-week rolling averages.

Apr '08

Tech strength	Company/concern		Patents granted
367.4	Boeing	BA	485
292.1	Lockheed Martin	LMT	301
169.4	General Electric	GE	196
165.8	Raytheon	RTN	200
152.7	Northrop Grum	NOC	207
117.4	United Technologies	UTX	144
96.5	Honeywell Int'l	HON	105
79.2	BAE Systen		93
78.5	EADS		153
64.7	Rockwell Collins	COL	54
60.6			
58.5			
54.9			
41.1			
35.2			

Apr. '07

Boeing Co | Lockheed Martin Corp | Gen

Tech Strength	Company/Concern	Patent Count	Innov Cycle T
376.1	Boeing Co	452	
310.1	Lockheed Martin Corp	317	
130.6	General Electric Co	168	
123.1	Northrop Grumman Corp	178	
		137	
		162	

Research Intensity™

Nov. '07

Data basis: US patents only, as published in 'The Wall Street Journal'

Global Players – PCT applications as an Indicator for the Globalisation of Patent Protection

2007 Ranking	Position Changed	Applicant's Name	Country of Origin	PCT Applications Published in 2007	Increased over 2006
1	1	MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.	JP	2100	-244
2	-1	KONINKLIJKE PHILIPS ELECTRONICS N.V.	NL	2041	-454
3	0	SIEMENS AKTIENGESELLSCHAFT	DE	1644	164
4	9	HUAWEI TECHNOLOGIES CO., LTD.	CN	1365	790
5	0	ROBERT BOSCH GMBH	DE	1146	184
6	2	TOYOTA JIDOSHA KABUSHIKI KAISHA	JP	997	293
7	5	QUALCOMM INCORPORATED	US	974	366
8	38	MICROSOFT CORPORATION	US	845	603
9	1	MOTOROLA, INC.	US	824	187
28	8	BSH BOSCH UND SIEMENS HAUSGERÄTE GMBH	DE	398	116
		EADS Group (including Airbus)		**386**	**171**
29	-	FUJIFILM CORPORATION	JP	372	372
30	-4	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	US	364	-52
31	52	SONY ERICSSON MOBILE COMMUNICATIONS AB	SE	360	211
66	-42	DAIMLERCHRYSLER AG	DE	200	-251
70	2974	ALCATEL LUCENT	FR	182	182
72	**6**	**THE BOEING COMPANY**	**US**	**181**	**23**

WORLD INTELLECTUAL PROPERTY ORGANIZATION

Glossary: The PCT provides an international system for filing patent applications. The PCT procedure consists of an international phase followed by a national or regional phase. In the national (or regional) phase, the applicant requests national processing of the PCT international application, pays additional fees and initiates the national search, examination and granting procedure. PCT international applications lead only to a national patent grant – there is no international patent.

As WIPO does not consolidate EADS figures, chart was calculated from WIPO's 'List of the Top 500 PCT Applicants in 2007'

History Tells Lessons about IP Protection

GM

新京报

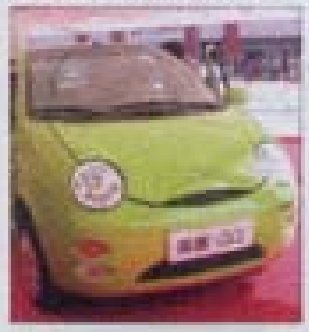
索赔8000万

人剽窃说，称QQ为公司自主设计

通用大宇公司请求法院判令奇瑞公司公开赔礼道歉，赔偿经济损失人民币7500万元，并承担律师费和调查费用500万元，没收销售QQ车的所有非法收入，判令上海福弘公司立即停止销售QQ车的行为。

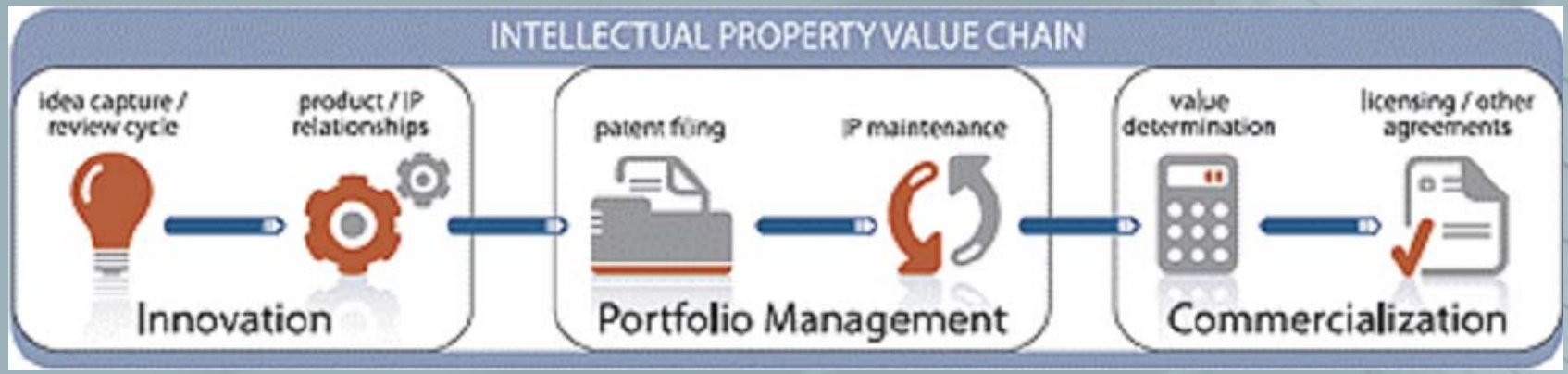
奇瑞称外观为自主设计，不存在侵权可能

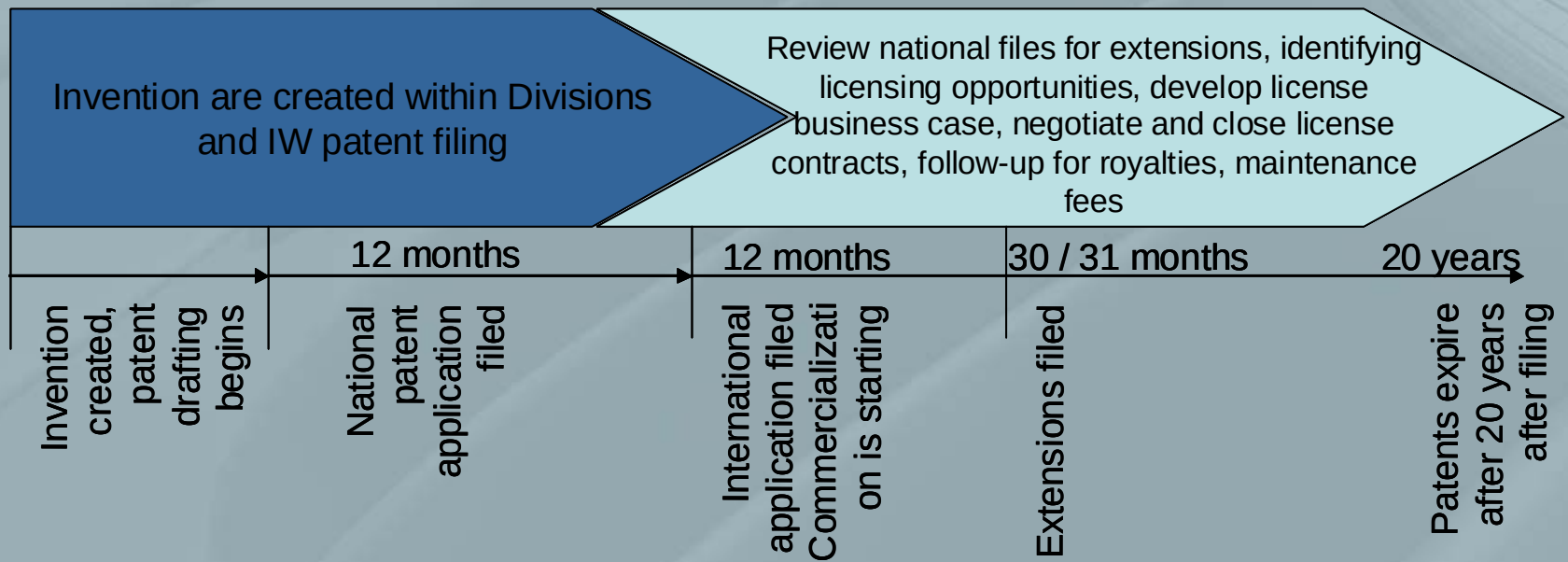
昨日，有关媒体就此事采访奇瑞汽车有限公司总部时，一位工作人员断然否认奇瑞QQ"剽窃说"，他说奇瑞QQ虽然从外形上看与大宇公司的Spark非常接近，但这个外观是由奇瑞公司自主设计的，而且作为汽车的核心部件发动机也是和



CHERY

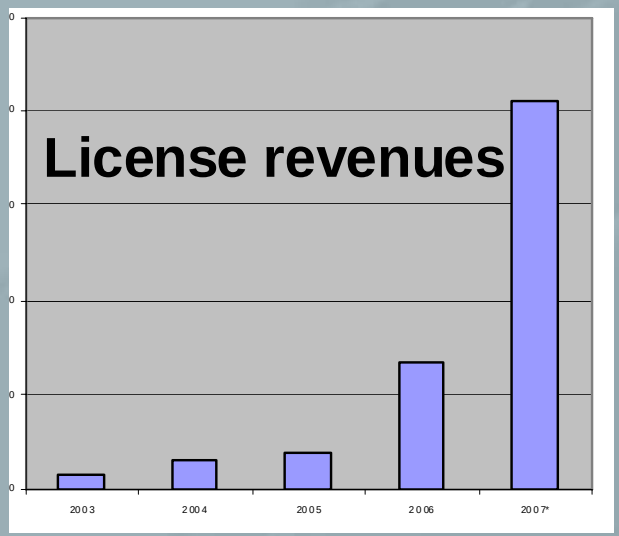
How to Build and Exploit a Patent Portfolio

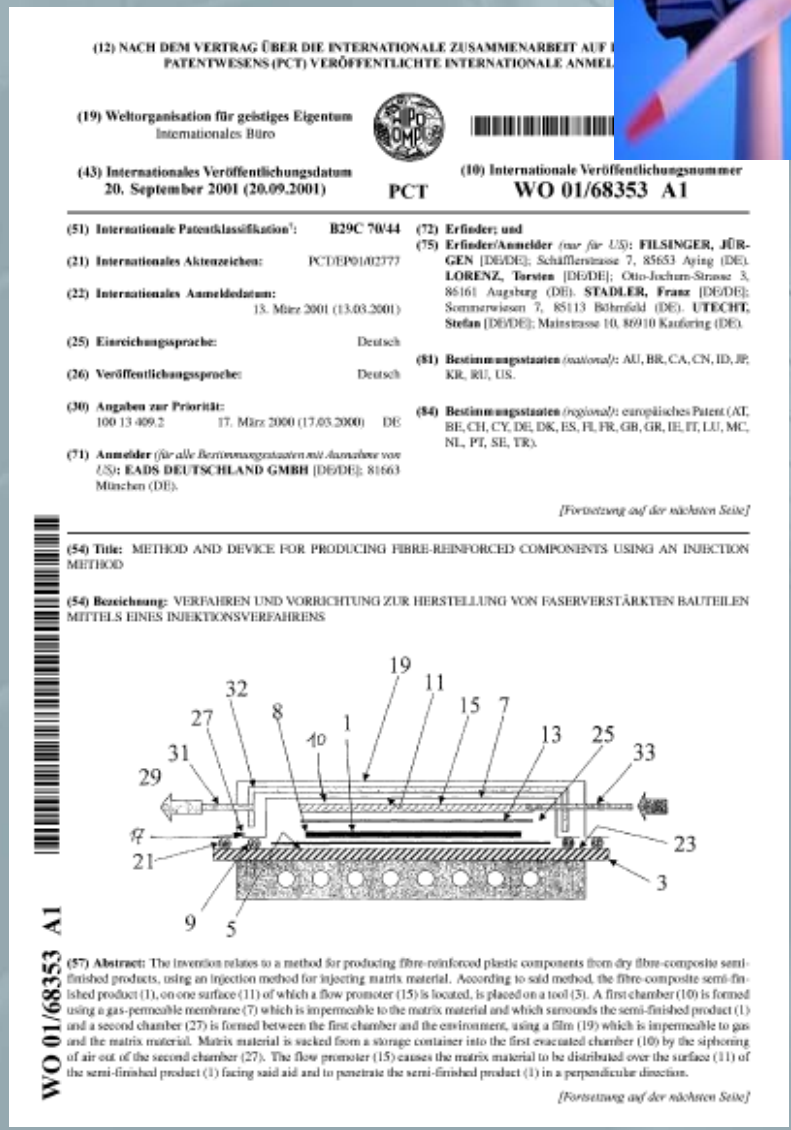




Exploitation Example: ‘Green Technology’

- License granted to matrix material manufacturer
- Wind turbine manufacturer asked for a license to produce wind turbine blades
- Technology developed for aircraft components in carbon-fibre composites
- By technology transfer, EADS is actively supporting ecological energy generation.





(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum
Internationales Büro

(43) Internationales Veröffentlichungsdatum
20. September 2001 (20.09.2001)

PCT

(10) Internationale Veröffentlichungsnummer
WO 01/68353 A1

(51) Internationale Patentklassifikation[7]: B29C 70/44

(21) Internationales Aktenzeichen: PCT/EP01/02777

(22) Internationales Anmeldedatum:
13. März 2001 (13.03.2001)

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:
100 13 409.2 17. März 2000 (17.03.2000) DE

(71) Anmelder (*für alle Bestimmungsstaaten mit Ausnahme von US*): EADS DEUTSCHLAND GMBH [DE/DE]; 81663 München (DE).

(72) Erfinder; und

(75) Erfinder/Anmelder (*nur für US*): FILSINGER, JÜRGEN [DE/DE]; Schäfflerstrasse 7, 85653 Aying (DE). LORENZ, Torsten [DE/DE]; Otto-Jochum-Strasse 3, 86161 Augsburg (DE). STADLER, Franz [DE/DE]; Sommerwiesen 7, 85113 Böhrnfeld (DE). UTECHT, Stefan [DE/DE]; Mainstrasse 10, 86910 Kaufering (DE).

(81) Bestimmungsstaaten (*national*): AU, BR, CA, CN, ID, JP, KR, RU, US.

(84) Bestimmungsstaaten (*regional*): europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

[Fortsetzung auf der nächsten Seite]

(54) Title: METHOD AND DEVICE FOR PRODUCING FIBRE-REINFORCED COMPONENTS USING AN INJECTION METHOD

(54) Bezeichnung: VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG VON FASERVERSTÄRKTEN BAUTEILEN MITTELS EINES INJEKTIONSVERFAHRENS

WO 01/68353 A1

(57) Abstract: The invention relates to a method for producing fibre-reinforced plastic components from dry fibre-composite semi-finished products, using an injection method for injecting matrix material. According to said method, the fibre-composite semi-finished product (1), on one surface (11) of which a flow promoter (15) is located, is placed on a tool (3). A first chamber (10) is formed using a gas-permeable membrane (7) which is impermeable to the matrix material and which surrounds the semi-finished product (1) and a second chamber (27) is formed between the first chamber and the environment, using a film (19) which is impermeable to gas and the matrix material. Matrix material is sucked from a storage container into the first evacuated chamber (10) by the siphoning of air out of the second chamber (27). The flow promoter (15) causes the matrix material to be distributed over the surface (11) of the semi-finished product (1) facing said aid and to penetrate the semi-finished product (1) in a perpendicular direction.

[Fortsetzung auf der nächsten Seite]

Exploitation Example
Airbus' AlMgSc Material Patents

- **Alloy originally developed for A350XWB fuselage**
- **Material supplier asked for a license to exploit technology with other aircraft manufacturer**

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 029 097 B1

(12) EUROPÄISCHE PATENTSCHRIFT

(45) Veröffentlichungstag und Bekanntmachung des Hinweises auf die Patenterteilung:
06.07.2005 Patentblatt 2005/27

(51) Int Cl.⁷: C22C 21/06, B23K 35/28

(21) Anmeldenummer: 99952347.5

(86) Internationale Anmeldenummer:
PCT/DE1999/002492

(22) Anmeldetag: 10.08.1999

(87) Internationale Veröffentlichungsnummer:
WO 2000/011232 (02.03.2000 Gazette 2000/09)

(54) SCHWEISSBARE, KORROSIONSBESTÄNDIGE HOCHMAGNESIUMHALTIGE ALUMINIUM-MAGNESIUM-LEGIERUNG, INSBESONDERE FÜR LUFTFAHRTANWENDUNG

WELDABLE ANTI-CORROSIVE ALUMINIUM-MAGNESIUM ALLOY CONTAINING A HIGH AMOUNT OF MAGNESIUM, ESPECIALLY FOR USE IN AVIATION

ALLIAGE ALUMINIUM-MAGNESIUM SOUDABLE, A HAUTE TENEUR EN MAGNESIUM, RESISTANT A LA CORROSION, DESTINE NOTAMMENT A DES APPLICATIONS DANS L'AERONAUTIQUE

(84) Benannte Vertragsstaaten:
DE ES FR GB IT

(30) Priorität: 21.08.1998 DE 19838018

(43) Veröffentlichungstag der Anmeldung:
23.08.2000 Patentblatt 2000/34

(73) Patentinhaber: Airbus Deutschland GmbH
21129 Hamburg (DE)

(72) Erfinder:
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- FILATOV, Yuri
  Moskau, 123100 (RU)

(74) Vertreter: Avenhaus, Beate, Dr.
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Patentabteilung
81663 München (DE)

(56) Entgegenhaltungen:
US-A- 5 624 632

- DATABASE WPI Section Ch, Week 7710 Derwent Publications Ltd., London, GB; Class M, Page 23, AN 1977-17364Y XP002127941 & JP 52 011143 A (NIPPON LIGHT METAL RES LAB), 27. Januar 1977 (1977-01-27)
- DATABASE WPI Section Ch, Week 9808 Derwent Publications Ltd., London, GB; Class M, Page 26, AN 1998-085170 XP002127942 & RU 2 081 934 C (LIGHT ALLOYS INST STOCK CO), 20. Juni 1997 (1997-06-20)
- CHERKASOV V V ET AL: "SPECIAL FEATURES OF THE STRUCTURE FORMATION AND PROPERTIES OF CASTABLE AL-MG ALLOYS ALLOYED WITH SCANDIUM" METAL SCIENCE AND HEAT TREATMENT,US,CONSULTANTS BUREAU. NEW YORK, Bd. 38, Nr. 5/06, Seite 268-270 XP000700642 ISSN: 0026-0673
- PATENT ABSTRACTS OF JAPAN vol. 013, no. 041 (M-791), 30. Januar 1989 (1989-01-30) & JP 63 248593 A (SHOWA ALUM CORP), 14. Oktober 1988 (1988-10-14)

EP 1 029 097 B1

Anmerkung: Innerhalb von neun Monaten nach der Bekanntmachung des Hinweises auf die Erteilung des europäischen Patents kann jedermann beim Europäischen Patentamt gegen das erteilte europäische Patent Einspruch einlegen. Der Einspruch ist schriftlich einzureichen und zu begründen. Er gilt erst als eingelegt, wenn die Einspruchsgebühr entrichtet worden ist. (Art. 99(1) Europäisches Patentübereinkommen).

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Why an EADS Experts' Policy?

- **Technical expertise in engineering makes the difference on the market. EADS must do its very best to keep best the Expertise resources. Expertise is first a matter of people!**
- **Therefore, EADS must develop its ability to manage Expert populations**
- **Talent management is all about attracting, developing and retaining. What does that mean in the case of Experts?**
- **The Expert policy is to stimulate our inventive potential in the engineering community**

Some Key Solutions for Experts

- **Attraction**

  Early investment through cooperation with Engineering schools;

  Strong HR marketing to attract the best European engineers.

- **Development**

  Creation of an Experts policy to offer an alternative in terms of career management, compensation & benefits, development.

- **Retention**

  Retention policy through the Experts policy

Who are the “Experts”?

Experts use high-level technical skills most of their time, each and every day in one of the Aerospace and Defence fields that are of importance for the Group.

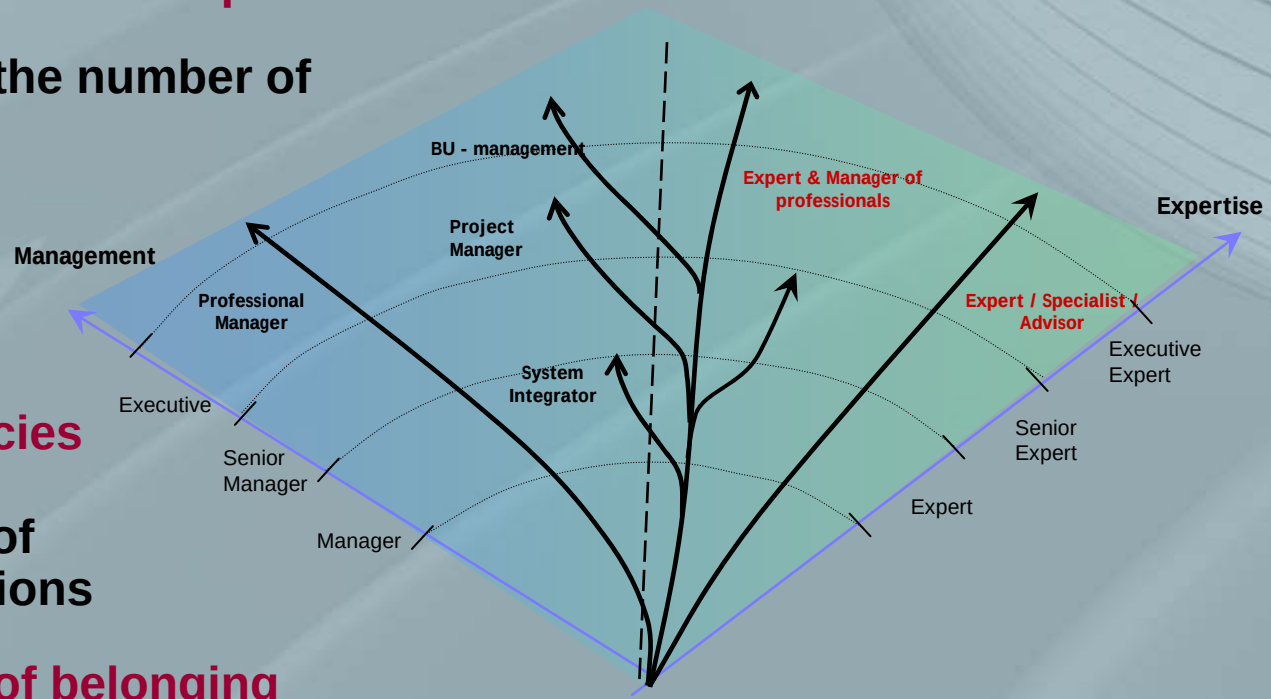
Our Experts:

- **Contribute to the development of knowledge in their field of expertise.**
- **Advise the management for improving operational solutions.**
- **Work in networks to seek out knowledge related to their specific fields.**
- **Share their knowledge and train young experts and managers.**
- **Secure our know-how by mastering Intellectual Property issues**

The other fields of expertise are not covered by this policy

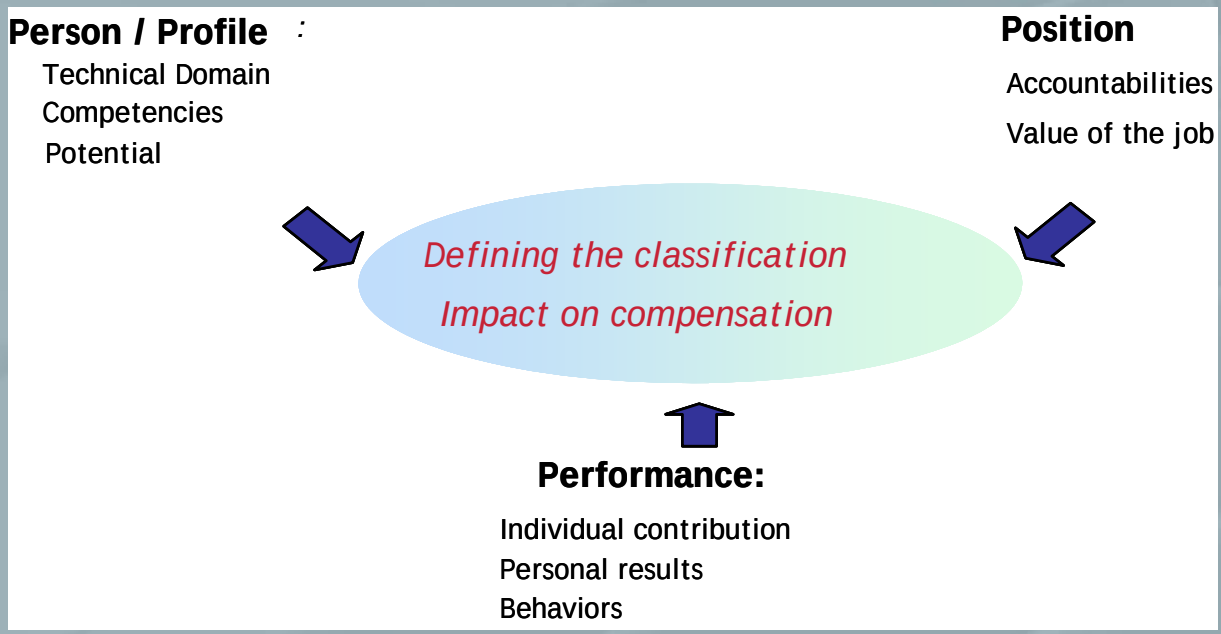
Experts' Policy Objectives

- **Identify experts and make them visible in the Group**
- **Offer inside EADS identical career opportunities and recognition for both experts and managers**
- **Attract, develop and retain experts**
- **Diversify and open the number of careers comprising managerial and technical components**
- **Secure portfolio of technical competencies in the coming years by offering options of pure technical positions**
- **Increase the sense of belonging for the EADS experts**



Contents of the Policy

- **Identification of Experts based on a 3P (Person, Position, Performance) assessment**



- **Nomination of Experts by classical career committee in the Divisions (except for Executive Experts, nominated by Corporate HR and CTO)**
- **Classification: for each Experts level (Executive – L3, Senior – L4, Expert – L5): exactly the same reward system as for a managers**
- **Training: 6 days for all nominated Experts**

Experts Training

A development program fully dedicated to experts

Module 1

EADS Strategy and policies

Understand how to contribute to the strategy and to the business performance
Understand EADS Experts' policy

Influencing through Communication

How to communicate with stakeholders (managers, programmes, research institutes, other experts…)

Influencing through Negotiation

How to negotiate with stakeholders (manager, programmes, research instituts, other experts…)

Module 2

Innovation

How to move from the "good idea" to successful innovative solutions and business results

Intellectual Property

How to protect my innovation and how to use IP as a competitive advantage

Knowledge Transfer

How to develop a new mindset to support knowledge transfer during all experts' life

Next Steps

Develop the Experts community

Process steered by a reduced group formed by the involved parties

(divisions binomial HR and technical side), LDL, the CTO and Innovation Works functions:

- ⇨ To monitor and consolidate the implementation of the EADS Expert policy in all divisions
- ⇨ To organise events and provide tools for the community (Experts day,
  Yellow Pages…)
- ⇨ To train around 40 executive/senior experts and 150 experts L5 in 2006

Launch a common process between Technical Directors and HR for matching EADS expertises with future needs

- ⇨ To analyse today's portfolio of expertise (BUs, Innovation Works)
- ⇨ To analyse future needs (at BU and at EADS level)
- ⇨ To identify corresponding actions

Conclusion

- The expert policy has been developed to achieve the EADS strategy of identifying and promoting expertise in the Aerospace and Defense technical fields to maintain a European independence in the field of Engineering.
- Technical Expertise has to be promoted in the following way:
- Expertise evaluation, based on assessment criteria, form the basis, including a selection process, set up to take into account proposals for nomination by the line management.
- A training and development policy ensures that experts receive the appropriate training to develop their expertise.
- The compensation scheme and the grouping of the experts into respective grading are consistent with the managerial bands and are validated to ensure consistency of the evaluations within EADS.

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Recognizing Talent as a Strategic Human Capital

EADS Hall of Fame rewards the innovation spirit through four prizes:

- **The Great Inventors**
- **The Great Innovators**
- **The Great Craftsmen**

and a special prize is given to

- **The Best Lean Manufacturing Team**

It is a process conducted every two years and concluded with at a festive award ceremony event

Held for the first time in Paris, at Cité de la Science on Nov. 22, 2007

Award winners' names and portraits are displayed in galleries located in the Headquarters buildings in Paris, Ottobrunn and Suresnes

EADS Hall of Fame Award Winners 2007

Great Inventor
Alain Porte
Airbus

Selected for inventions and software, subject to patent applications or invention disclosures or copy righted software

Great Innovator
Tony Craig
Astrium UK

Innovative projects implemented during last two years that helped generate significant revenue increase or competitive advantage

Great Craftsman
Antoine Garcia
Eurocopter

Blue collars with unique contributions, key for our business

Best Lean Manufacturing Team
Andrés Diego, Juan Pedro Sanchez
Francisco Canto, Manuel Temblador
Alfonso Illana, Jorge Gonzalez
MTAD

Recognises the best improvement initiatives to generate savings, to deliver on time or to increase quality

Thank you for your attention