

Chancen- und Risikenteilung mit Lieferanten

A380
A340
A350
A318
A310
A300-600F

A400M
C-295
CN-235
C-212

Tiger
NH 90
ATR 42
TBM 700
TB 21
EC135

Ariane 5
ATV
Helios II
Skynet 5
INMARSAT
Galileo

Eurofighter Typhoon
Mako
Meteor
EuroHawk
C³I Systems
Captor



Airbus



Military Transport
Aircraft



Eurocopter



EADS Astrium



Defence & Security

Dr. Anfried Sauerborn, EADS Corporate Sourcing/Strategy

**Seminar „Risiken im Einkauf“
Aachen 15. Dezember 2009**

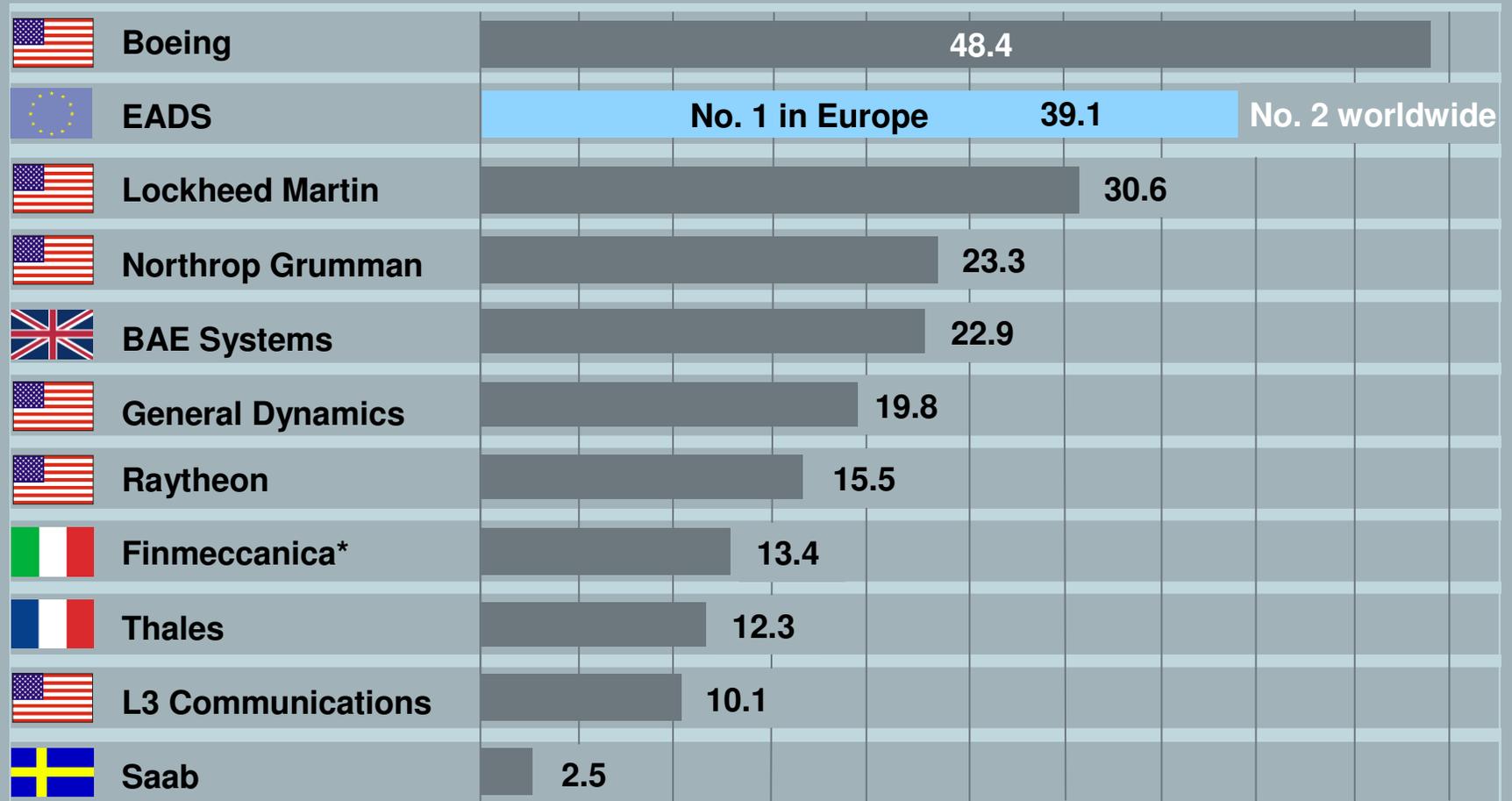
Chancen- und Risikenteilung mit Lieferanten

- Risiken in der Luftfahrtindustrie
- Identifikation von Hauptrisiken
- Beteiligung von strategischen Lieferanten
- Datenbank zu Risikoklauseln

EADS at a glance



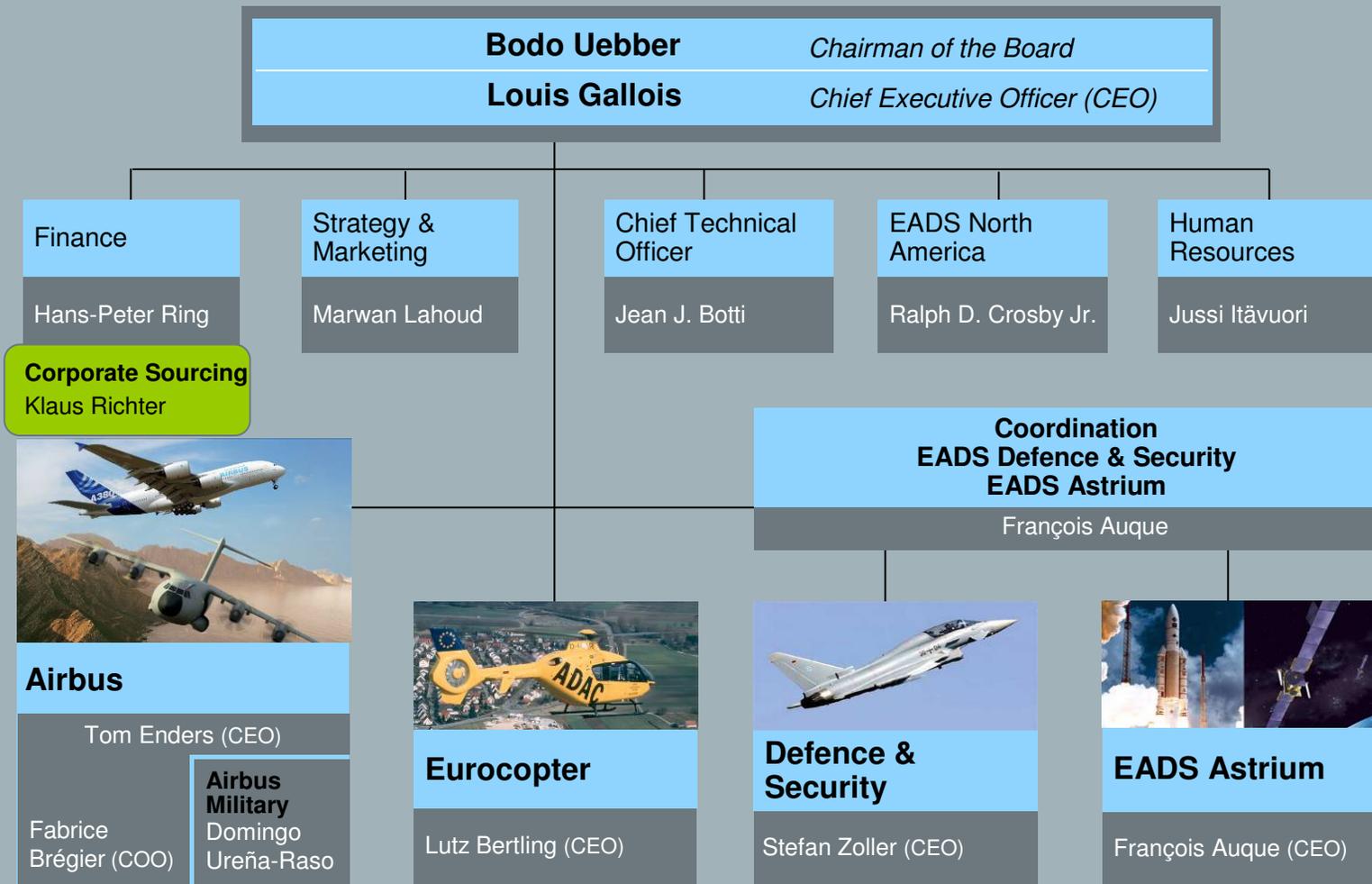
Competitive Position Revenues 2007 in bn €



* A&D activities only. Eliminations not considered

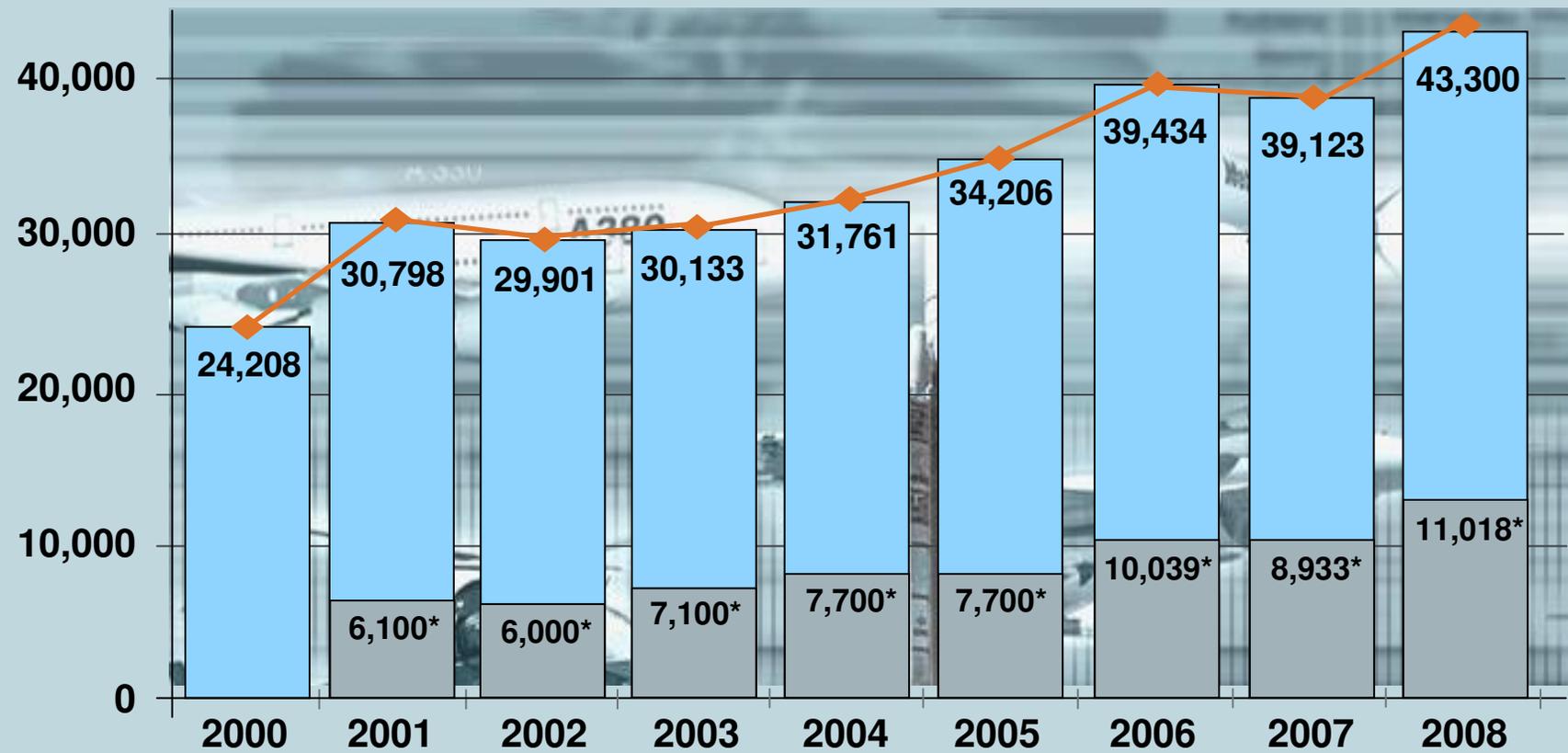
Based on 2007 average exchange rates: €/\$ = 1.256; €/£ = 0.682; €/SEK=9.250

EADS Management Structure (I)



EADS Revenues

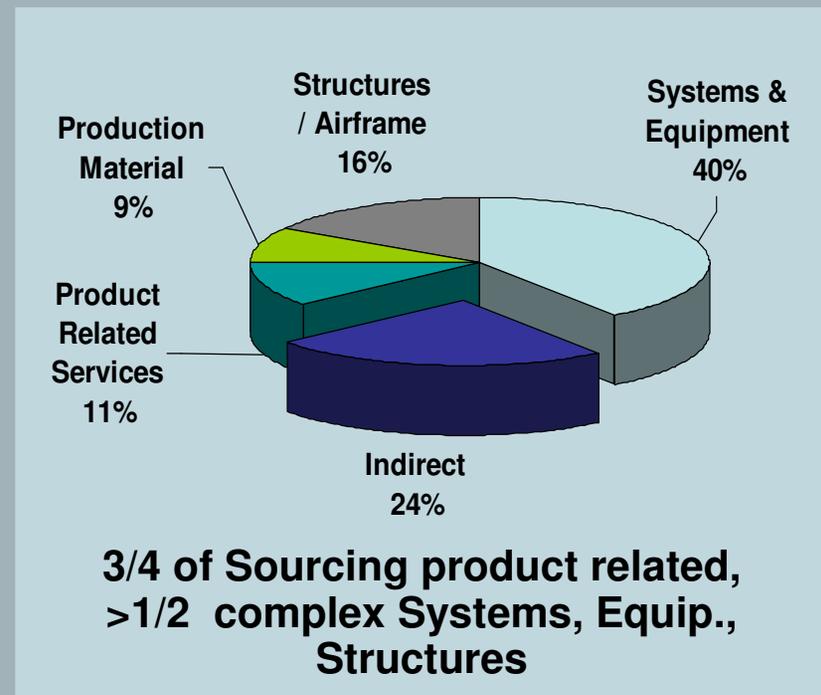
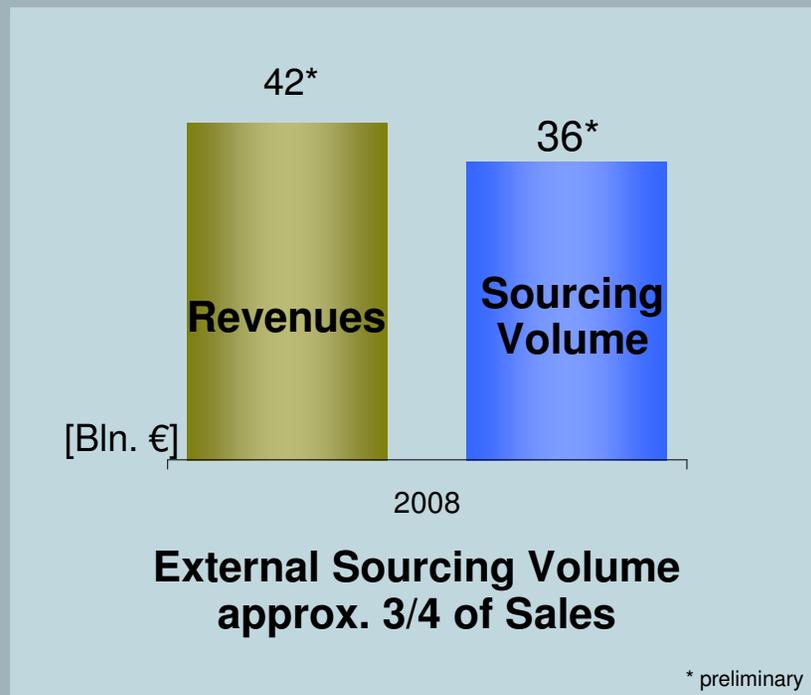
in mill. €



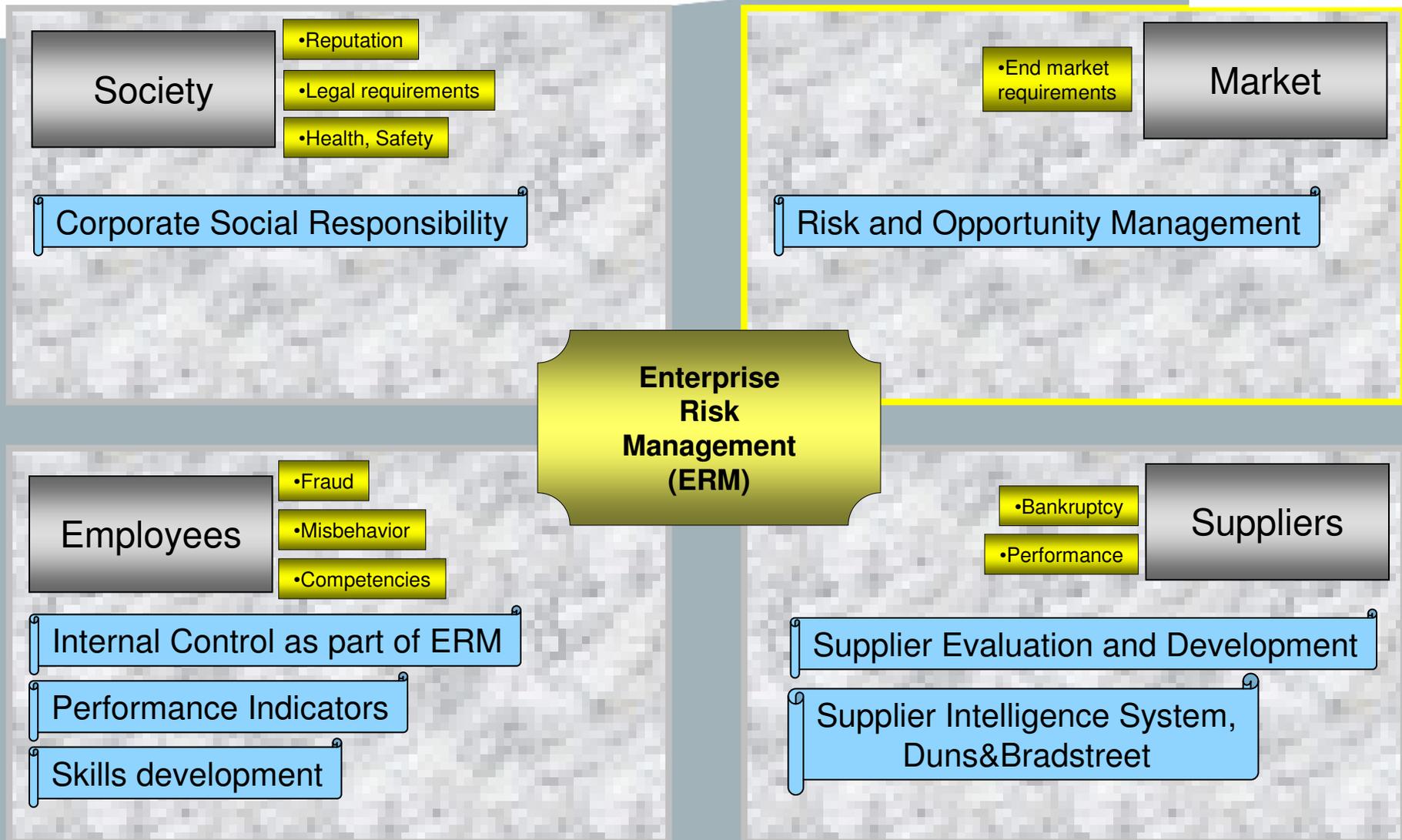
* Sales revenues defence in million €

EADS Sourcing Volume

Divisions developed to high level integrators with strong sourcing content



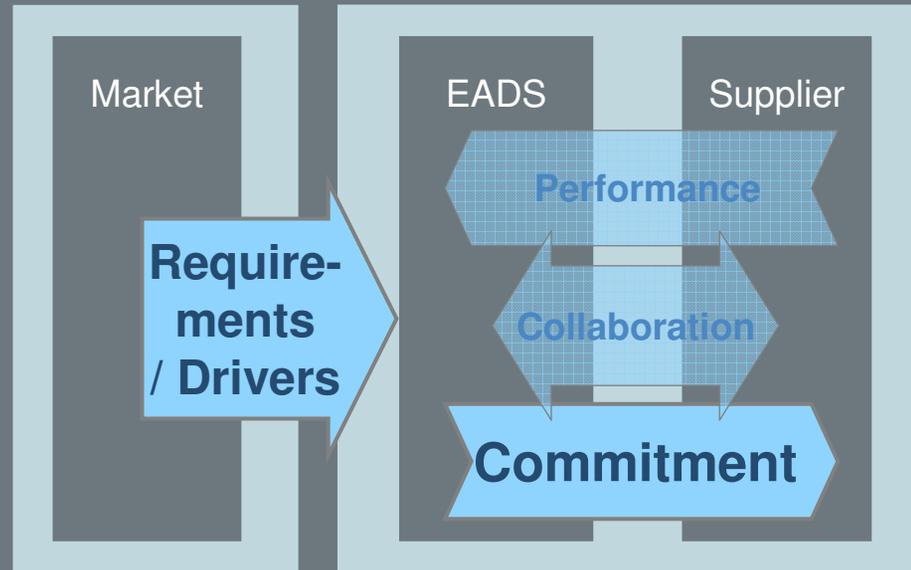
**Performance is to a large extent determined in the Supply Chain,
Sourcing is a key lever for EADS success**



Risk and Opportunity management is part of Supplier relationship management:

Supplier Relationship Management

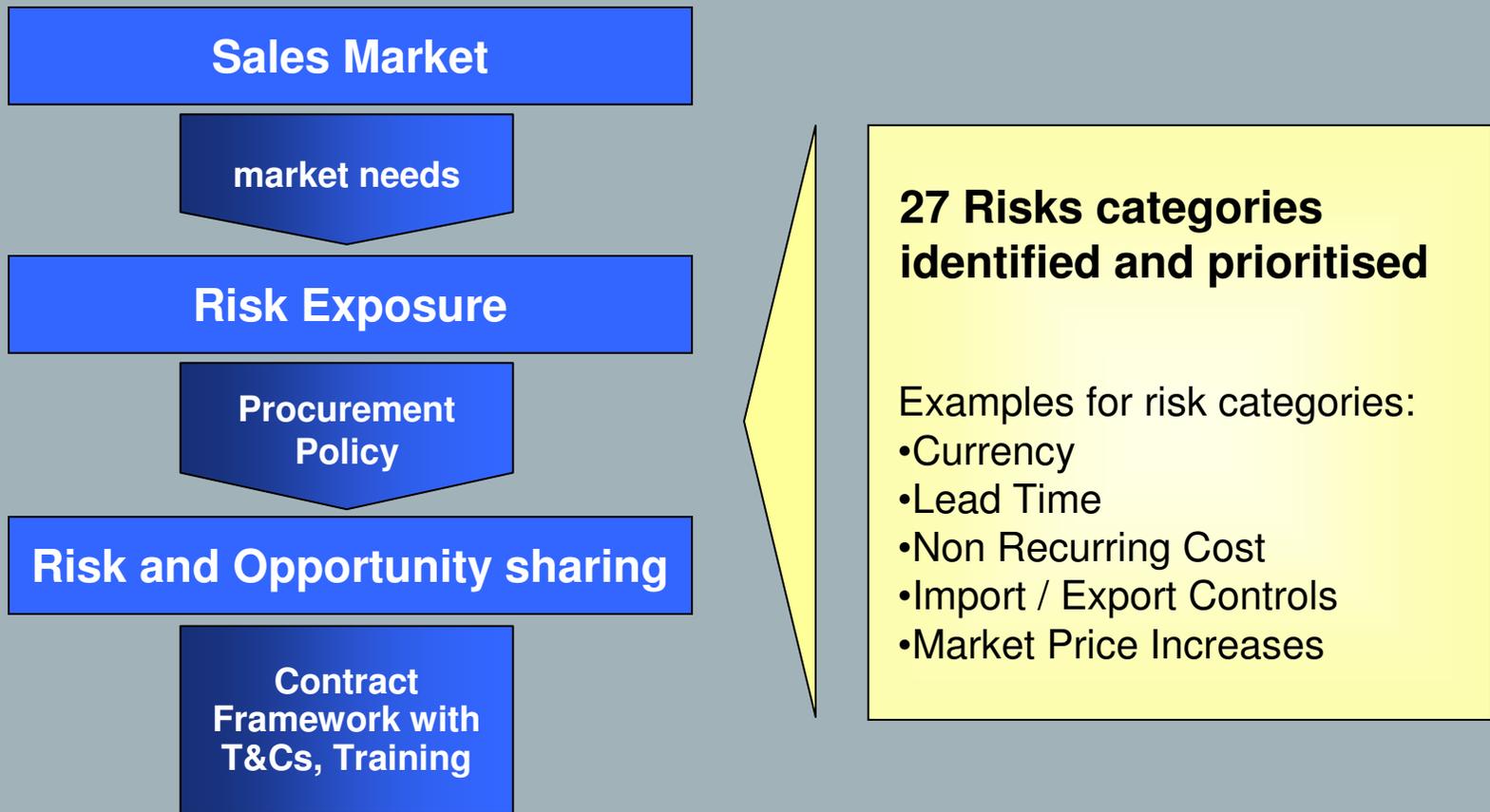
- Supplier Evaluation and Development
- **Risk and Opportunity Management**
- Collaboration



EADS global business perspectives require sharing of end-customer market opportunities and risks with suppliers



Risk and Opportunity Management (ROM)



EADS global business perspectives require sharing of end-customer market opportunities and risks with suppliers



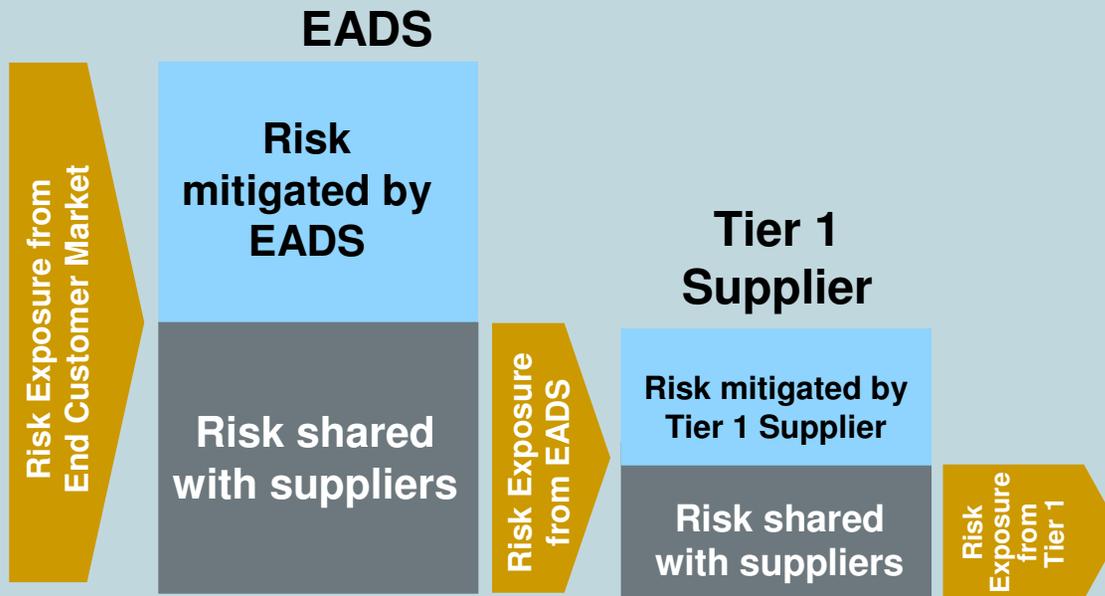
Risk & Opportunity Management

Examples of risk sharing with suppliers

| Flow down | Non Recurring Costs | Order Volume and Mix | Currency | Global Sourcing |
|---|--|-----------------------------|-----------------|------------------------------------|
| Sales Market | Development efforts for new programs | Volatility of demand | Exchange rates | Market access |
| Risk Exposure | NRC risk for development and modifications | Stock over- or under run | Currency risks | Loss of opportunities, obligations |
| Risk Prevention, Risk & Opportunity Management | Suppliers bear their NRC investments | Flexible delivery schedules | Natural Hedging | Local supplier engagement |

Risk & Opportunity Management

Common system for flow down of risk and opportunity to suppliers implemented across EADS



- Potential risks are identified, prioritized and clustered
- Risk mitigation principles are defined in the Procurement Policies
- Contract elements for risk sharing are prepared and provided in a common database

Flow down of risk to reflect flow down of business



Risk and Opportunity Management

27 EADS Risk Sharing Elements cover a wide range of topics:

- 1) Compliance with commercial requirmts.
- 2) Risk Management capability
- 3) Repair capabilities customer support
- 4) Non Recurring Cost
- 5) Lead time
- 6) Order volume and -mix requirmt. changes
- 7) Termination of contract
- 8) Management vision
- 9) Import /export control
- 10) Technological competitiveness
- 11) Design price competitiveness
- 12) Competition and manufacturing cost
- 13) Currency risk
- 14) Market price increases
- 15) Offset
- 16) Obsolescence
- 17) Environmental responsibility
- 18) Warranty and liability
- 19) Modification cost
- 20) Market orientation
- 21) Intellectual Property Rights
- 22) Liquidated damages
- 23) Delay in development
- 24) Product liability insurance
- 25) Parent company guarantee
- 26) Social Regulation Risk
- 27) Applicable Law



Example of Risk Assessment: Risk Register

| Risk | P | S | Root causes | Potential actions for mitigations |
|--|---|---|---|--|
| Non Recurring Cost The risk of a supplier not being committed to bear Non Recurring Cost (NRC) | 6 | 6 | <ul style="list-style-type: none"> •Not enough market opportunities/forecasts accuracy to amortize NRC; •Suppliers not educated to bear NRC | <ul style="list-style-type: none"> •Risk to be shared contractually; to be negotiated very early in the Sourcing •Get the Supplier early involved in the design phase and negotiate shared risks/opportunities |

Process steps:

- 1: Identify potential risks (use EADS risk elements)
- 2: Estimate Probability and Severity
- 3: Select most important risks
- 4: Brainstorm on root causes
- 5: Identify mitigation actions
- 6: Recheck complete assessment
- 7: Reassess regularly and monitor progress on mitigation actions

P (Probability)

- 1: Very Unlikely
- 2: Unlikely
- 3: May happen
- 4: Likely
- 5: Very likely
- 6: Almost Certain
- 7: Certain

S (Severity)

- 1: No relevance
- 2: Insignificant
- 3: Minor
- 4: Serious
- 5: Very serious
- 6: Almost Catastrophic
- 7: Catastrophic

Probability x Severity = Risk Importance



Risk assessment: Example

| Type | Nb | Title | Prob. (1-7) | Severity (1-7) | Root causes | Potential actions for mitigations |
|------------|----|--|-------------|----------------|--|--|
| COMMERCIAL | 1 | Compliance with commercial requirements The risk that a supplier is not committed to reduce its costs in order to deliver a product/service at the market price. | 4 | 5 | Lack of precise specs.; monopolistic situation ... | Contractual : fix prices, limit "modification" clauses Precise functional specifications |
| | 2 | Non Recurring Cost The risk of a supplier not being committed to bear Non Recurring Cost (NRC) | 6 | 6 | Not enough market opportunities/forecasts accuracy to amortize NRC; Suppliers not educated to bear NRC | Risk to be shared contractually; to be negotiated very early in the Sourcing; Get the Supplier early involved in the design phase and negotiate shared risks/opportunities |
| | 3 | Design price competitiveness The risk of a supplier is not committed to be price competitive in regard to design techniques | 6 | 7 | Monopolistic situation | Contractual obligation + annual benchmark ; negotiate fix unit elements prices and % (overhead, project management, logistic...) |
| | 4 | Competition and manufacturing cost The risk of a supplier is not committed to be price competitive in regard to manufacturing techniques | 2 | 3 | Supplier using manufacturing process/equipments not up to date | Contractual obligation + annual benchmark Audit regularly Supply Chain management |
| | 5 | Market price increases The risk of trends, events or developments that may increase market prices in the supply market | 7 | 4 | High severity on SW; high potential risk on manpower & components (+/- 10%) | Contractual : negotiate fix prices or limit application of price increase based on they right index (using a max. or a shreshold level) |
| | 6 | The risk of modification The risk that a supplier is not committed to bear the cost of modification demanded by the end customer certification authorities and the BU design departments | 7 | 6 | Changes of specs & funct. that occur during the life cycle (high in bid & contract phase with Mol who wants changes for free!); lack of precise specs at the begining of the project | Contractual : negotiate fix price incl. margin for customer/end-user changes/modifications (to be precised); Involve the supplier early in design phase; Internal: precise analysis of current and future certification needs |
| | 7 | Price evolution risk The risk that the supplier is not committed to comply with the customer requirements in terms of price index evolution (long term contracts) | 6 | 5 | Very important in Defence market; the sales accepts customer clauses in terms of price indexation not fitting with reality (internal problem) | Contractual : negotiate fix prices or limit application of price increase based on the right index (using ceiling or or threshold for applicability) to be first checked with Customer requirements |
| TRACT | 8 | Termination of contract The risk that a termination cases are not covered according to end-customer requirements. | 5 | 6 | Equipments, stock ... couldn't be re-used or re-sold | Contractual : flowdown of the termination clauses; share costs recovery |



Contract Database:T&C`s for Risk Sharing Elements

ROM Input Vers. 1.2 (Last change: 01.06.2006)

Risk Sharing Elements

Material categories

Copy to Contract
Copy to Contract all
Reset copied elements
Export Contracts

| Risk Sharing Elements | Copy to C... | Link | Material ... | Comment |
|---|--------------|------|--------------|---------|
| 00. How to use/word of caution | | | | No |
| 01. Compliance with commercial requirements | | | | Yes |
| 02. Risk Management capability | | | | Yes |
| 03. Repair capabilities customer support | | | | Yes |
| 04. Non Recurring Cost | | | | Yes |
| 05. Lead time | | | | Yes |
| 06. Order volume and -mix requirements changes | | | | Yes |
| 07. Termination | | | | Yes |
| 08. Management vision | | | | Yes |
| 09. Licenses Import/Export controls | ✓ | | | Yes |
| 10. Continuous improvement to ensure technological design price & manufacturi | ✓ | | | Yes |
| 11. Design price competitiveness | | | | Yes |
| 12. Competition and manufacturing cost | | | | Yes |
| 13. Currency Risk | ✓ | | | Yes |
| 14. Market price increases | | | | No |
| 15. Offset and sales promotion | | | | Yes |
| 16. Obsolescence | | | | Yes |
| 17. Environmental responsibility | | | | Yes |
| 18. Warranty and liability | ✓ | | | Yes |
| 19. Modification cost | | | | Yes |
| 20. Market orientation | | | | No |
| 21. Intellectual property rights | | | | Yes |
| 22. Liquidated damages | | | | Yes |
| 23. Delay in Development | | | | Yes |
| 24. Product liability insurance | | | | Yes |
| 25. Parent company guarantee - Instruments to protect from supplier credit risk | | | | Yes |
| 26. Social Regulation Risk | | | | Yes |
| 27. Governing law | | | | Yes |
| Annexes | | | | Yes |

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Version 5.0 (Build 371)



Summary conclusion:

- The Aerospace Industry is exposed to typical and specific risks generated by customer contracts
- EADS as system integrator has a process in place to share these risks (but also opportunities) with suppliers
- This process is managed by Corporate Sourcing (Tools and training)
- As business situations and challenges vary significantly, there are no standard EADS risk sharing contracts in place
- The system is flexible but builds on expertise and common tools



Thank you for your attention.



The step beyond

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