

The coordinated procurement of EEE components for ATV

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Manager Parts Projects

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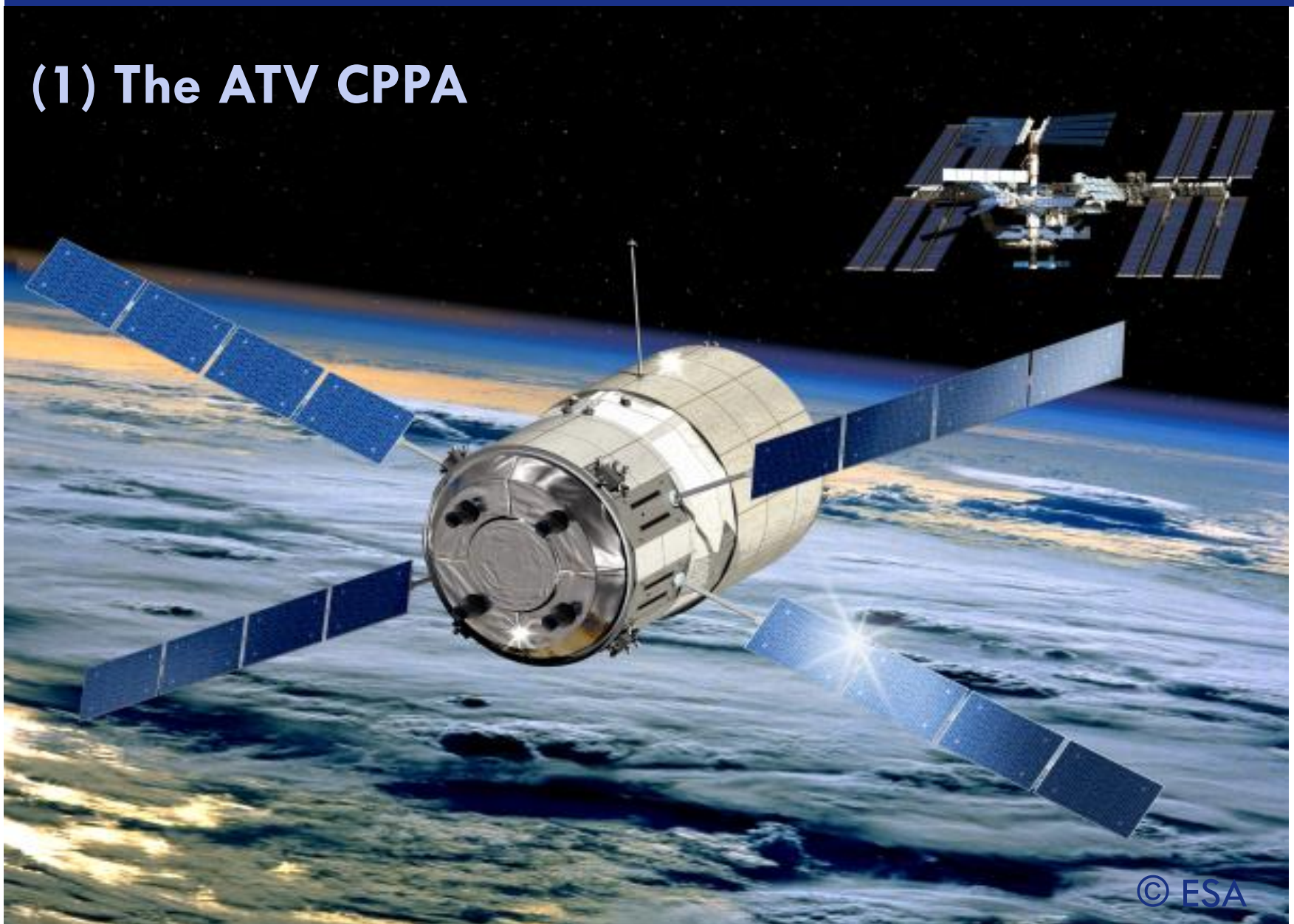
Contents

- The CPPA activity for ATV
 - Overview
 - Procurement Phases

- Review and Analysis of the CPPA activity
 - Challenges
 - Solutions

- Recommendations for future EEE parts procurements

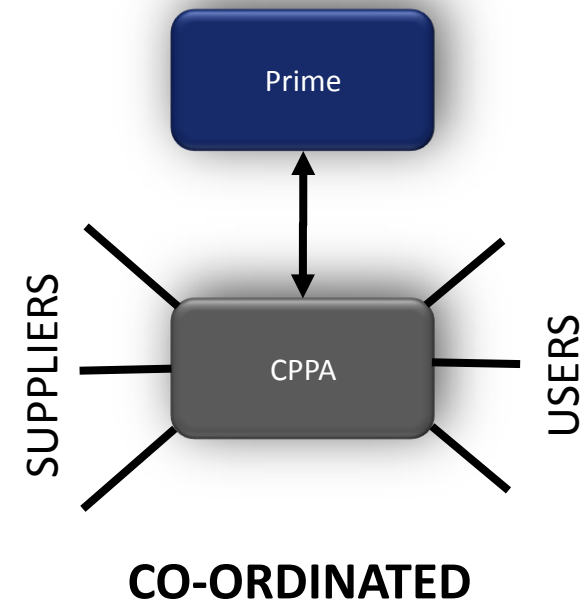
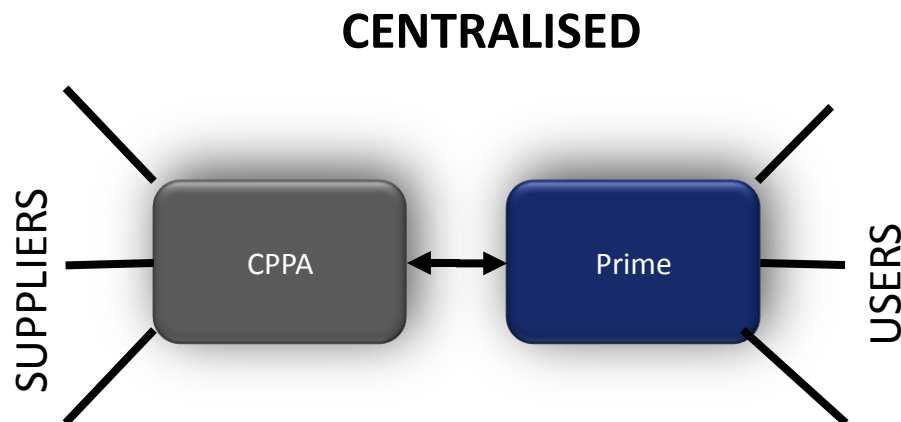
(1) The ATV CPPA



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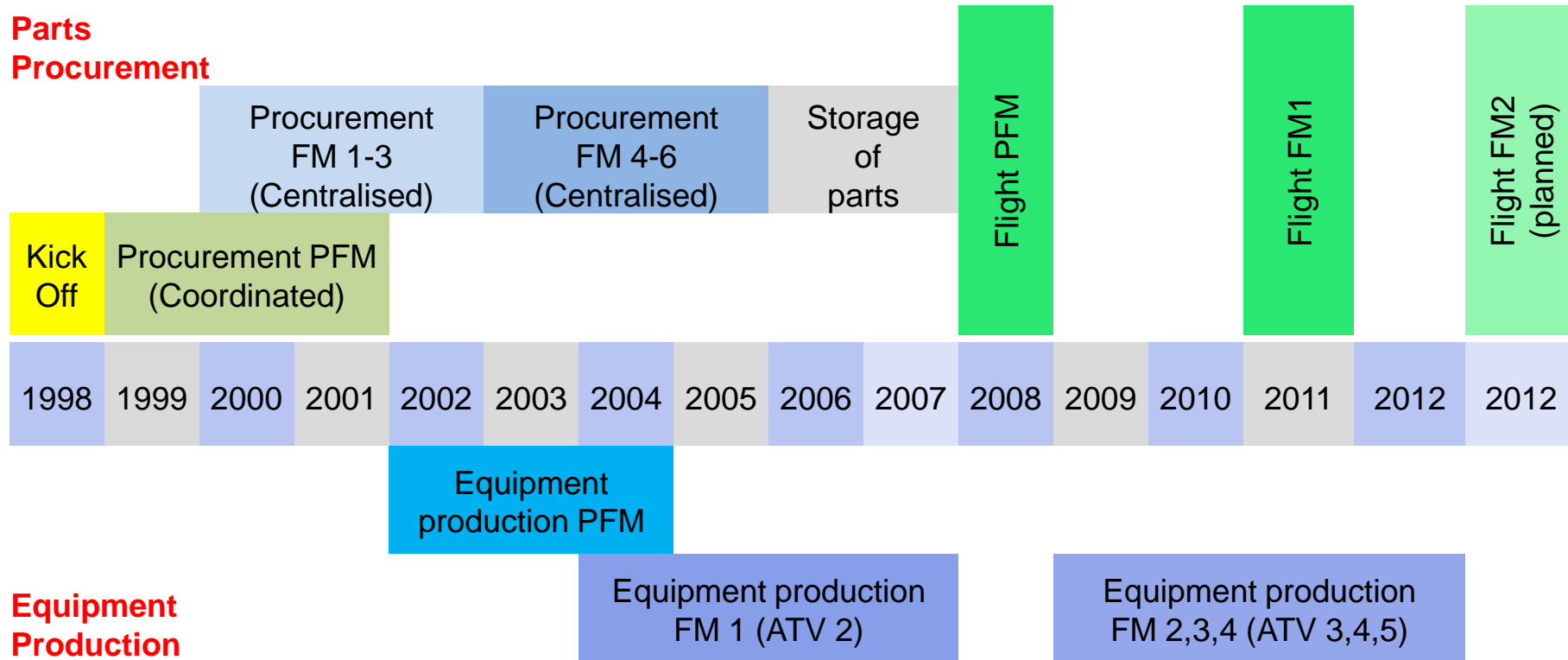
Overview of the Programme and the CPPA

- Astrium France (former Aerospatiale) Prime for PFM
- Astrium Germany (former DASA) Prime for FM
- Tesat selected as CPPA with ALTER Spain as subcontractor
- Co-Ordinated parts procurement for PFM (Developement)
- Centralised parts procurement for FM (Series Production)



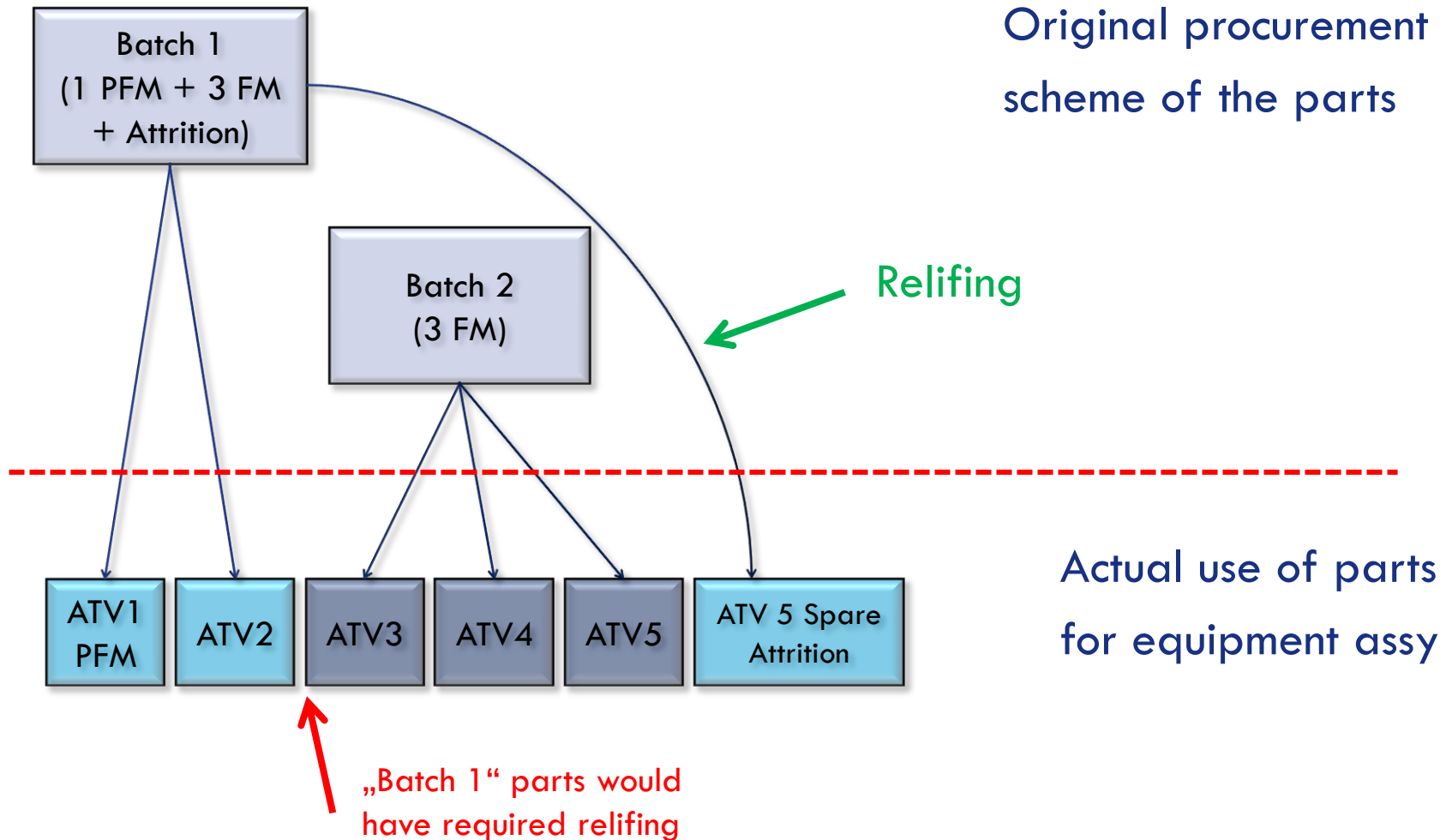
Schedule Overview

Parts Procurement



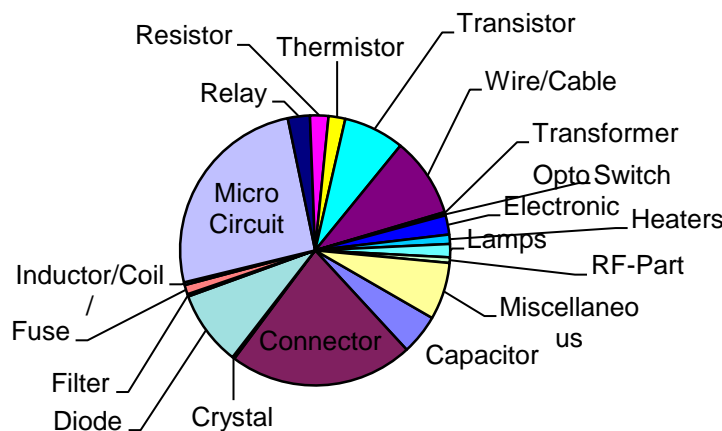
Note: Production schedule is generalised and may differ in detail for each of the equipment

Project duration and changes in project scenario impact



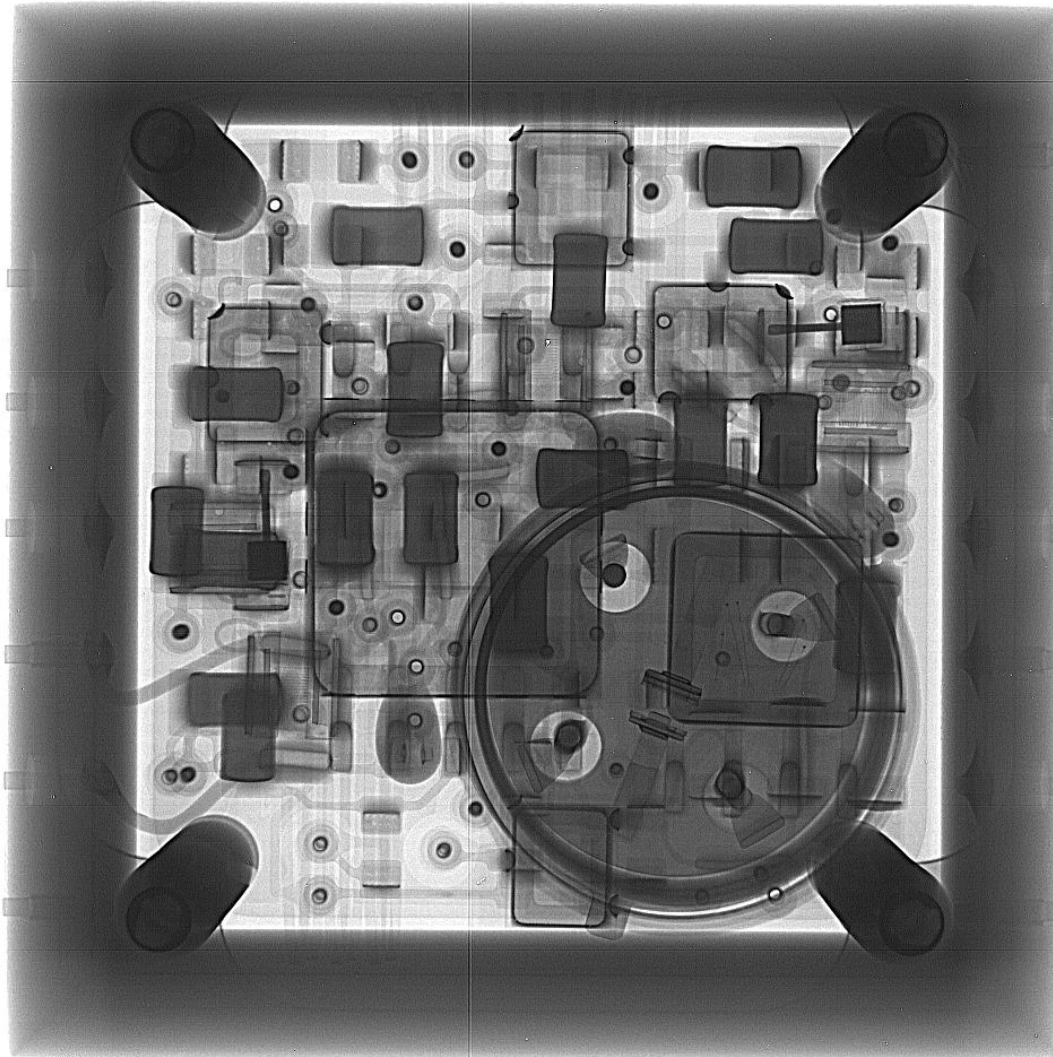
Parts procured by the ATV CPPA

- Parts procured for 50 equipment supplied by 25 user companies
- More than 7000 line items and more than 1 million piece parts
- Due to mission time parts procured in reduced quality levels
- Overview of parts families (by cost contribution)



FC	Family	%	FC	Family	%
8	Micro Circuit	25,5	11	Thermistor	2,0
2	Connector	22,1	23	Lamps	1,6
13	Wire/Cable	9,5	6	Fuse	1,1
4	Diode	9,0	21	Heaters	1,1
12	Transistor	7,3	30	RF-Part	0,7
89	Miscellaneous	6,8	7	Inductor/Coil/	0,3
1	Capacitor	4,8	5	Filter	0,3
9	Relay	2,6	3	Crystal	0,3
	Opto Electronic			Switch	
18		2,3	16		0,2
10	Resistor	2,2	14	Transformer	0,2

(2) Review and Analysis of the ATV CPPA



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Challenges for the Programme and CPPA

PFM (development)

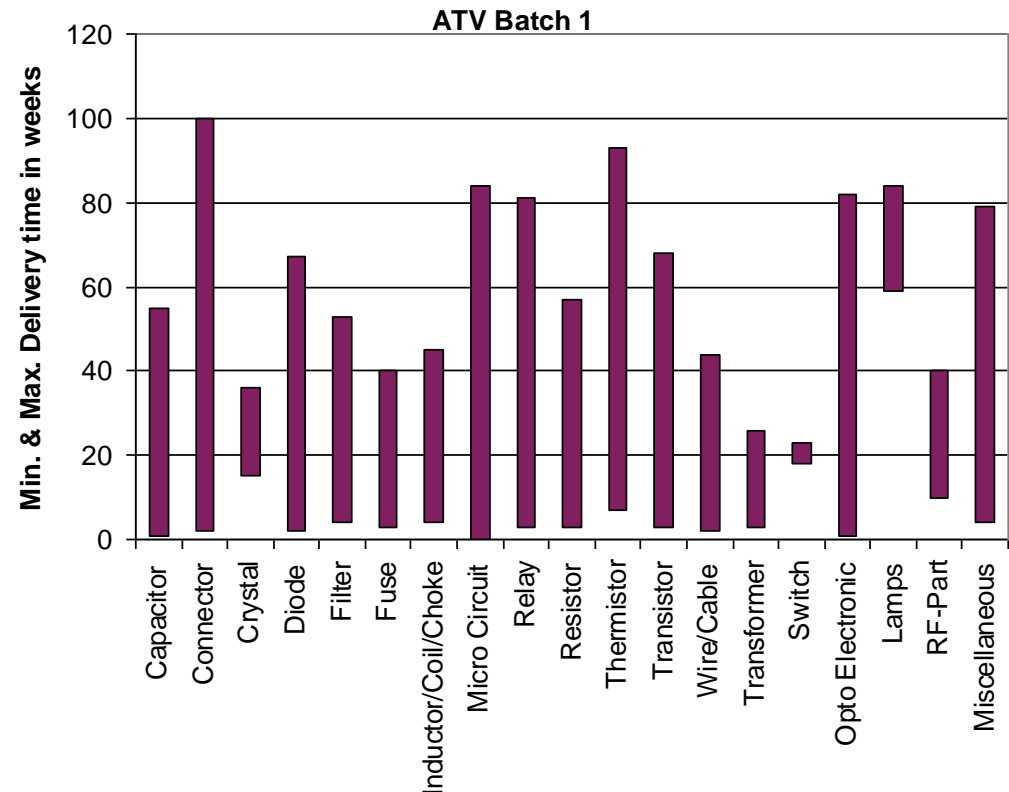
- Many new designed equipment
- Design changes: DCL updates
- Co-ordination of user needs due to wide variation of need dates
- Difficulties to implement standardisation
- Acceptance of PPL by users
- Equipment test driven late additional need
- Additional /new equipment arising from system tests
- Wrong expectations of parts quality by users

FM (production)

- Parallel procurement with PFM: immediate impact of DCL changes
- Self procured PFM / FM as CPPA : Standardisation to CPPA items
- DCL not clearly identifying need per ATV: wrong quantity ordered by CPPA
- Relifing due to long project duration
- Obsolescence of items
- Transfers and changes in user community
- Changes in export control legislation
- Long storage of parts (inventory)

Challenges for the ATV CPPA (general)

- More than 300 issues and updates of user DCL (i.e. on average more than 6 issues of a DCL for each equipment)
- Unexpected long lead times for numerous items
- CPPA procurement schedule different from equipment production (confusion : user – CPPA)
- Definition of responsibilities with CPPA team



CPPA Solutions to Challenges (1)

Equipment Suppliers

User assistance in
parts selection

High flexibility in
ordering:
multiple blocks
late changes

Maximised but
flexible
standardisation

Parts Suppliers

Prioritisation at
suppliers

Assist suppliers
handling high
workload

Implement
alternative suppliers
for critical ones

CPPA Solutions to Challenges (2)

Schedule

Re-distribution of parts (after delivery)

Reallocation of parts (prior to delivery)

Re-use of minimum buy for later batches

Long Term Issues

Identify obsolescences

Controlled storage

Cost efficient relifing

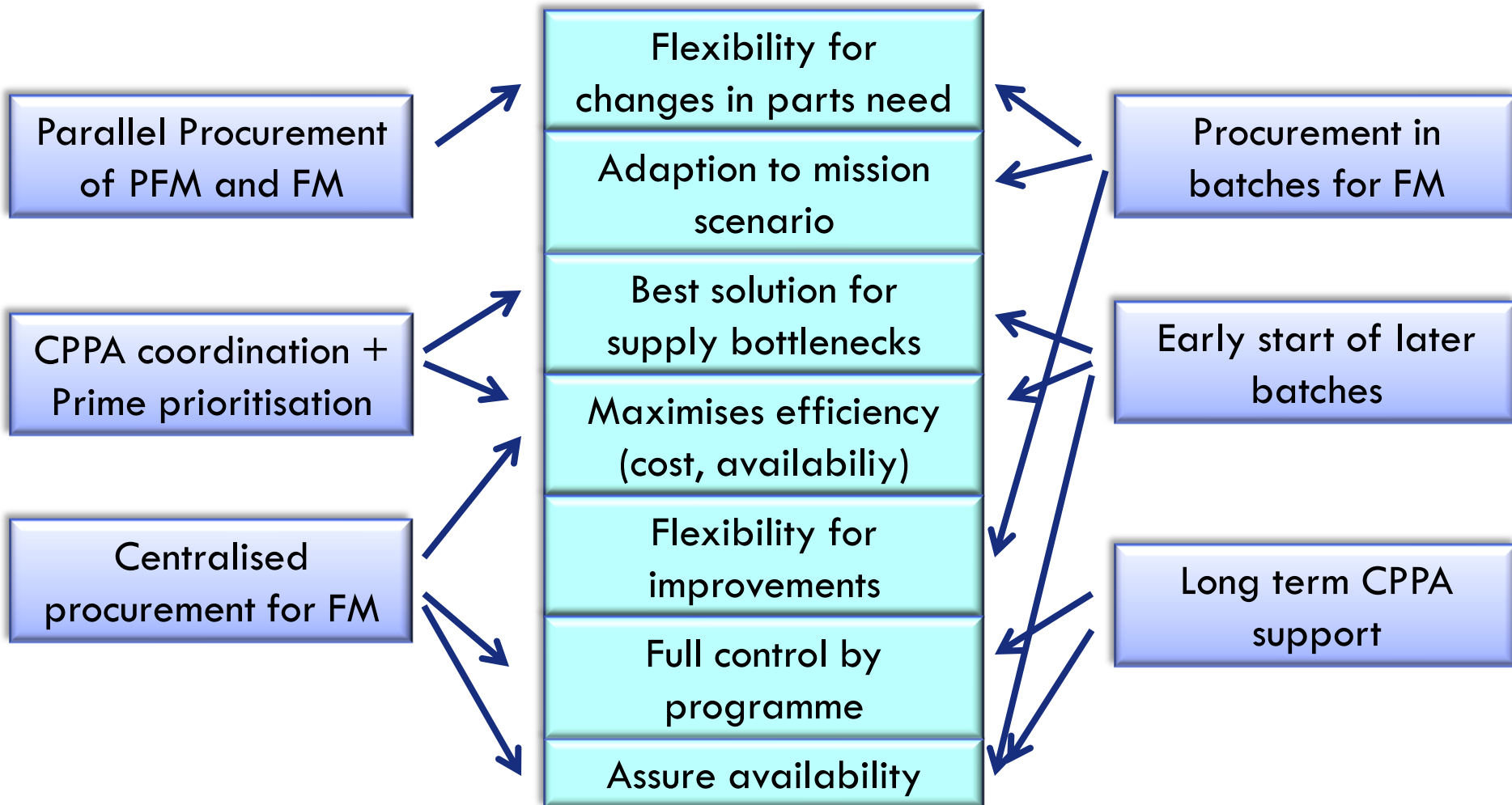
Control of technical issues (failure analysis, alerts)

Co-operation

Clear CPPA organisation

Clear communication between all parties

Key Success Factors for the ATV CPPA



Summary and Conclusion

- The selected procurement approaches can be considered as most efficient to the ATV mission scenario
- The implementation of CPPA for ATV contributes to the success of the mission
- The procurement in batches allowed to successfully implement improvements and „lessons learned“ results
- Some benefits of the CPPA only apparent in late phases of the project (e.g. for challenges due to drift in schedule)

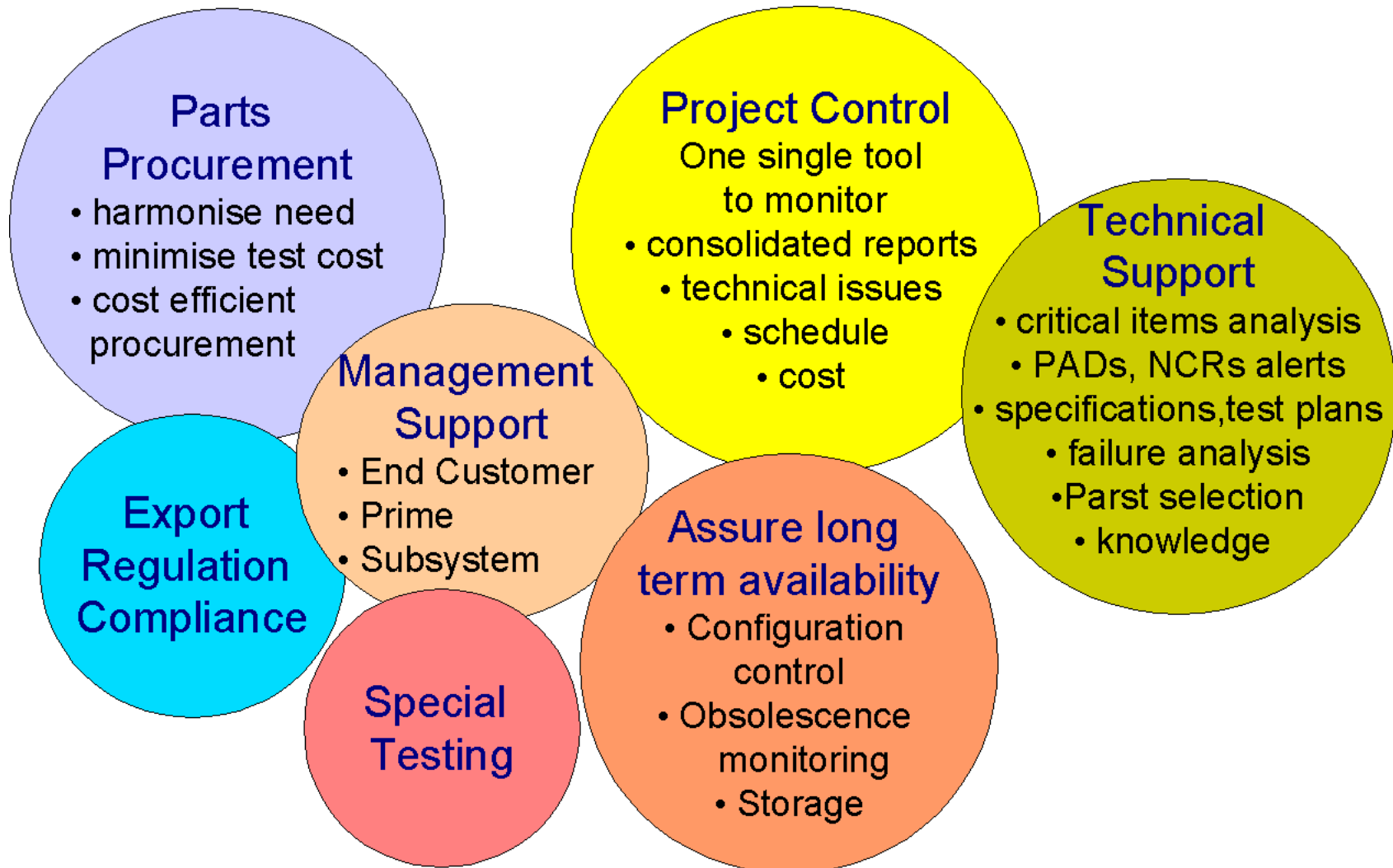
(3) Recommendations for Future Programmes

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Recommendations for Future Projects

- CPPA provides a number of unique benefits to a programme
- These should be analysed for each programme individually on their importance and relevance
- The overall risk mitigation effects should be considered
- The analysis should not only focus on the procurement phase but on the overall programme duration
- CPPA should not only be considered as cost saving instrument

CPPA: Services and Benefits



Factors to identify appropriate CPPA approach

- Equipment design level
- Project scenario (schedule, number of flight sets, recurring needs,..)
- Expected parts need (types + families): benefits of standardisation
- Number of equipment suppliers
- Impact of schedule risks driven by parts issues
- Exceptional conditions (e.g. mission environment)
- Experience of the equipment suppliers



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