



User and Supplier Needs and Interests Consolidation in Germany

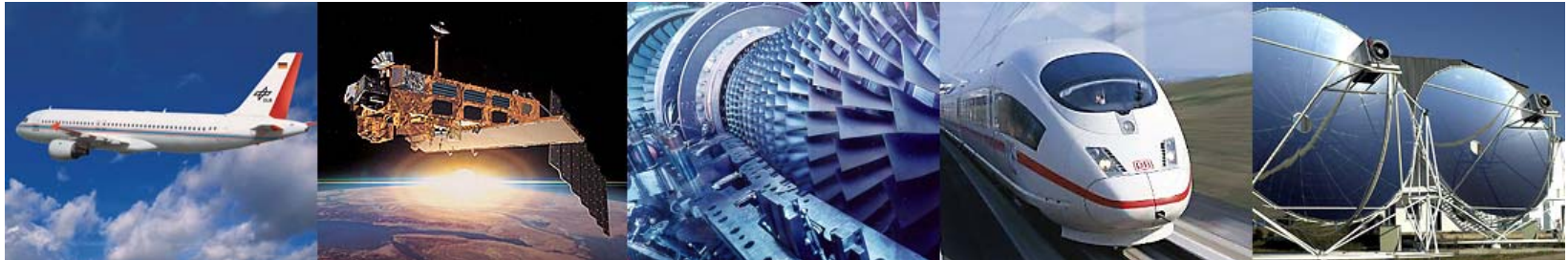
Dr.-Ing. Andreas K. Jain (andreas.jain@dlr.de),
Jürgen Tetzlaff (juergen.tetzlaff@dlr.de),
ESCCON, Noordwijk, 15. - 17. March 2011



Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft



German Aerospace Center (DLR)



Aeronautics

Space

Transportation

Energy

- Research Institution
- Space Administration
- Project Management Agency
- 6500 employees across 29 research institutes and facilities at 13 sites
- Total budget (2011) : 2980 Mio €



Tasks and Responsibilities within the DLR EEE-Parts Section on behalf of the Space Administration

- Determination and prioritization of the national EEE-parts demand
→ **National technology development and qualification program** → increasing EEE-part availability
- Launching EEE-part qualifications
- Performing qualification and re-qualification audits with manufacturers
- Establishing strategies to increase the availability of EEE-parts in the frame of the **European programs** (ECI, ESCC, FP7)
- Representation of the German Space Administration, German manufacturers and users within the European Space Components Coordination (ESCC)
- EEE-part conferences for user and supplier needs and interests consolidation



Topics of the EEE-part Conferences :

- Annual for users
- Bi-annual for users and suppliers (part manufacturers)
- EEE-part availability (and application of the EPPL)
- Qualification procedures
- Parts problems (alerts, export restrictions ...)
- Technology developments
- Harmonization of the national technology development and qualification program



Harmonization of the National Technology Development and Qualification Program in Detail :

- To propose actions and tasks to improve the EEE parts availability
- To agree on actions and tasks
- To prioritize and approve the proposed action list
- To report on actions and tasks performed, their results, and their application
 - ➔ To increase the acceptance at customer level
 - ➔ To reduce the impact of export restrictions
- Supported by information web site (password protected only for German users, www.ibara.de see slide 6)



Additional Harmonization / Discussion via DLR Web Site "IBARA" (for registered Users only)



Informationen für Bauelemente-Anwender in der Raumfahrt



Start-Seite
Anwender
Hersteller
International
Qualifikationen
Dokumente

Aktuelles

Links

Bauteil-Listen

DLR/Tesat

Kontakt

Impressum

Willkommen auf der DLR / Tesat Internet Seite mit Informationen für Bauteile-Anwender in der Raumfahrt !

Diese Seite wurde im Auftrag der DLR-Raumfahrtagentur erstellt und wird in regelmäßigen Abständen aktualisiert, das jeweils letzte Aktualisierungsdatum wird auf dieser Seite angezeigt.

Auf dieser Seite werden in Zukunft auch die letzten Änderungen beschrieben, so dass sie leicht verfolgt werden können.

An vielen Stellen sind **Verknüpfungen** und **Hyperlinks** eingefügt, zur besseren Erkennung sind sie farblich hervorgehoben.

Beiträge zu diesem Informationssystem sind jederzeit gerne willkommen. Ein freies Diskussionsforum wurde absichtlich nicht eingerichtet. Die **Diskussionsbeiträge bitte an Tesat Spacecom** schicken.

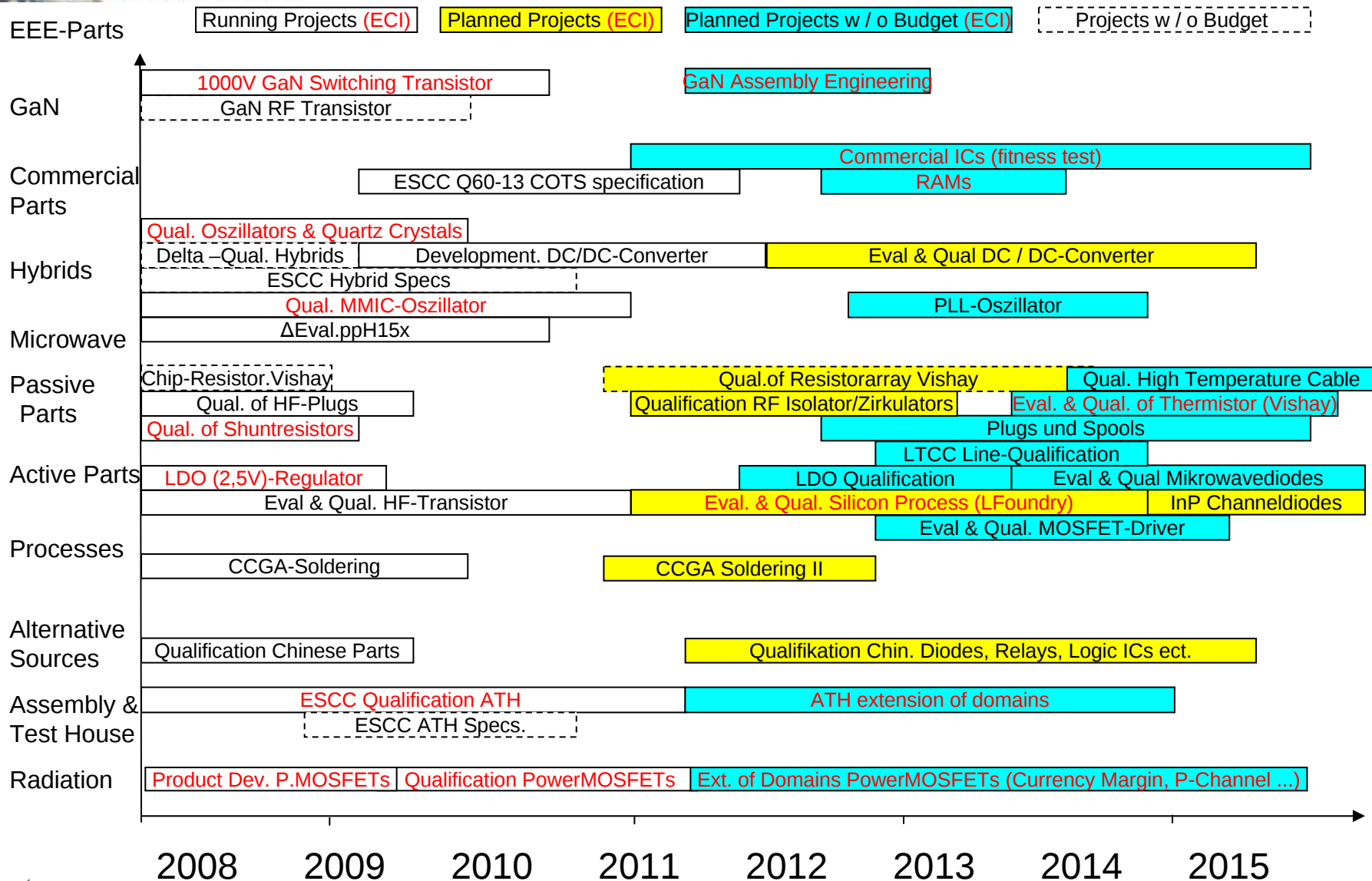
Letzte Änderungen:

Wann	Was	Wo (Seite)
20.12.10	- Info über Industriekonferenz und ESCCON	Aktuelles
18.08.10	- Protokoll und Anhänge SCSB 26	International - SCSB
18.08.10	- Protokoll und Anhänge PSWG 44	International - PSWG
09.08.10	- Protokoll 29. CTB-Meeting	International - CTB
02.08.10	- Protokoll Anwenderplattform	Anwender - Meetings
28.06.10	- Präsentationen 8. Anwenderplattform	Anwender - Meetings
06.05.10	- ECI 3 - Listen	Qualifikationen - ECI
30.04.10	- Reiseberichte G12-Meetings	International - G12
27.04.10	- Protokoll und Anhänge SCSB 25	International - SCSB
27.04.10	- Protokoll und Anhänge PSWG 43	International - PSWG
27.04.10	- Aktionsplan aktuelle Version	Qualifikationen - Aktionsplan
29.03.10	- Aktuelles - Termin Anwenderplattform 2010	Aktuelles
29.03.10	- Neue Seite: Bauteil-Listen	Bauteil-Listen

Letzte Aktualisierung: 20.12.2010



EEE Programs Roadmap





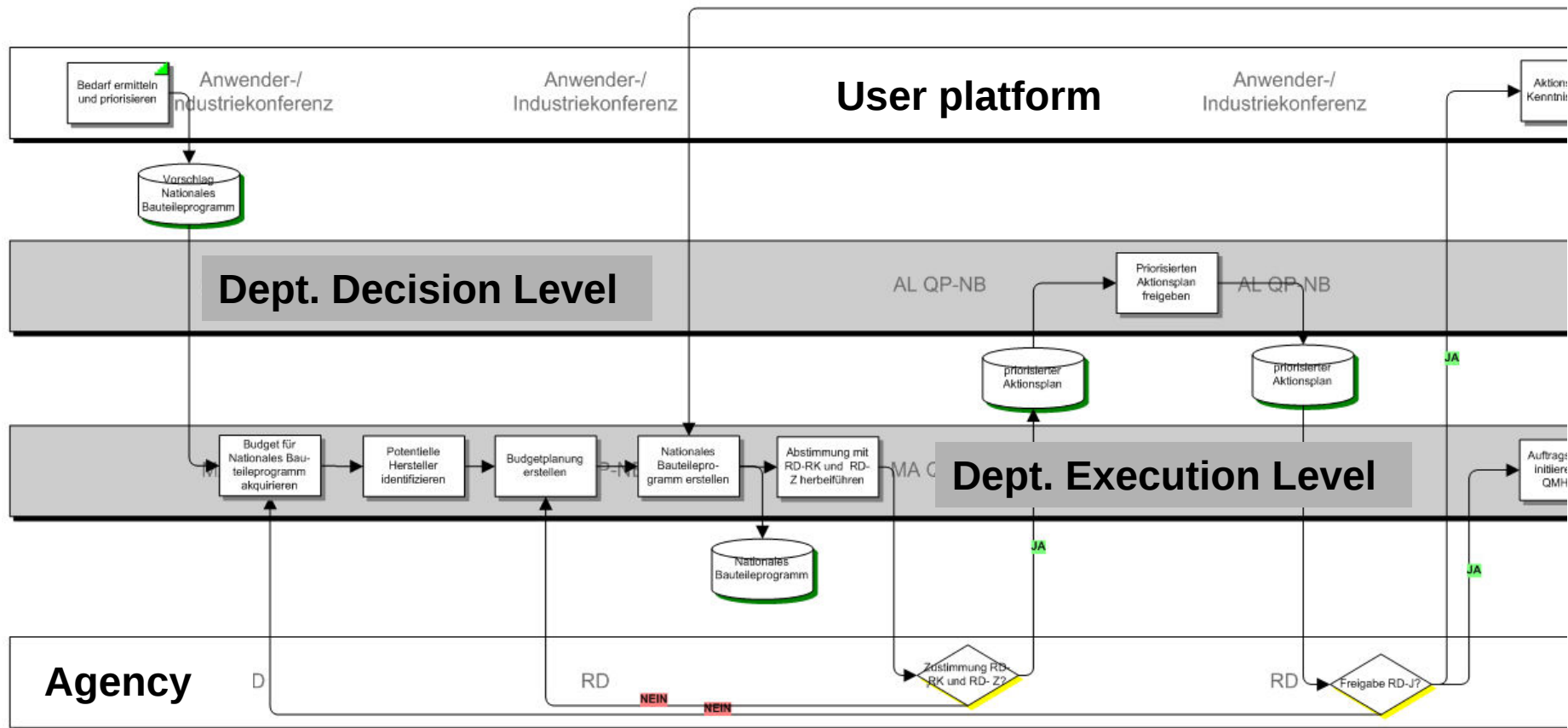
DLR Way for Action Plan Consolidation

- Draft action plan as input for German User Platform (example on slide 11) 
- Discussion, harmonization and prioritization of user needs at this platform
- Identification of suitable manufactures
- Internal negotiations (budget, priorities, human resources, approvals ...)
- Establishing specifications if not available from ESCC
- ESCC harmonization (CTB input for AQP)
- Consolidated budget table = German action plan (see example on slide 12) 
- Contract placing and execution regarding to DLR process requirements (see process flow on slide 9) 
- Input to ESCC QPL and EPPL
- To report results and application of running or performed programs 



Graphical Process Description

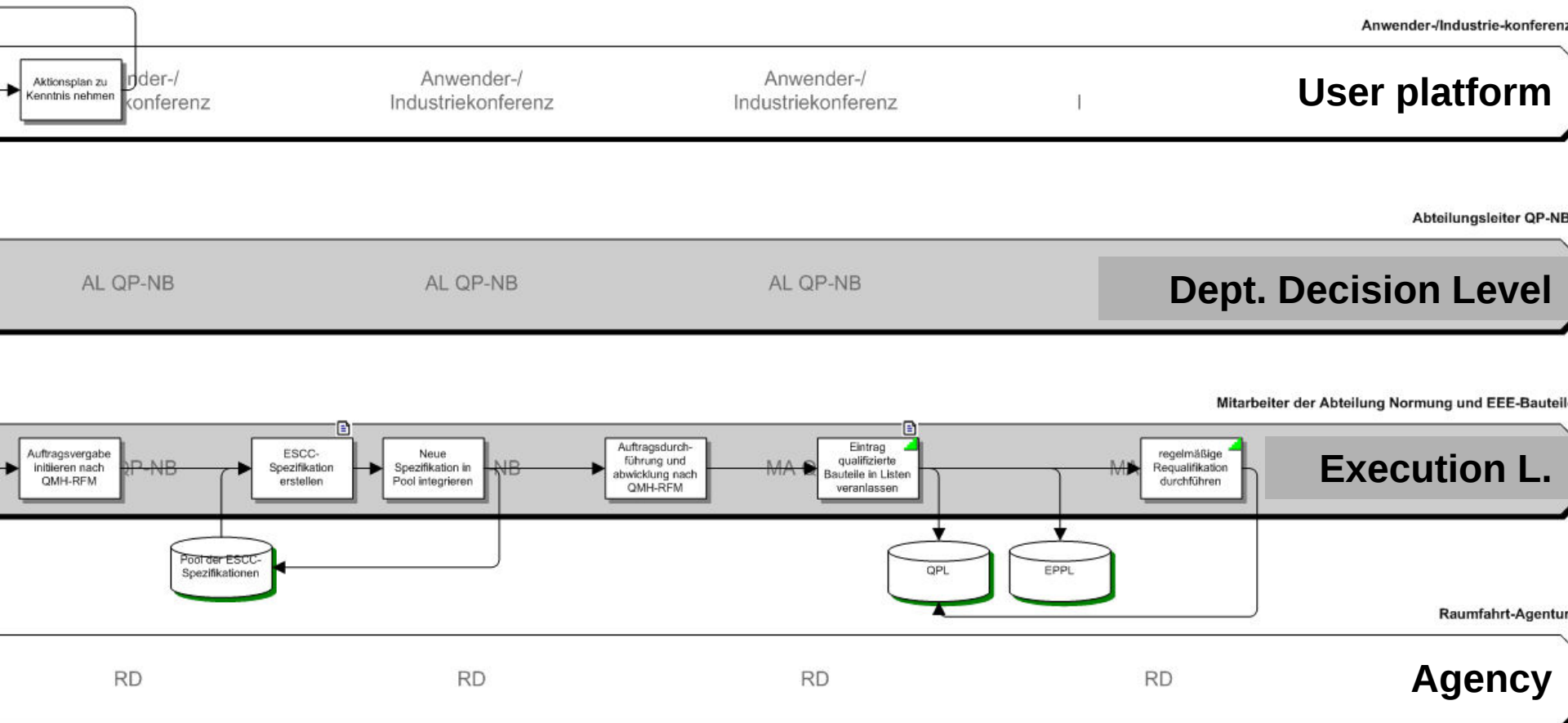
(1)





Graphical Process Description

(2)





Draft Action Plan as Input for User Platform

Product	Manufacturer	Action	Planned Start	Actual Start	Status
Commercial ICs	Tesat/Astrium	Radiation Characterization	2009		Postponed to ?? - Need ?
µW-Dioden	IAF	Development, Evaluation and Qualification	2009	2009	Tesat -internal Qualification performed
High Temperature Cabel	Leoni Special Cables	Development, Evaluation and Qualification	2009	?	Planned from ESA within ECI-3 intended manufacturer: Axon
Assembly- and Test House	NN	Extension of certified domain	2009		Possible only after certification
PoL-Converter	IHP	Development	2010	2010	Standardized product
RF-circulator and isolator	Tesat	Evaluation and Qualification	2010	2010	Product available, existing need
German Foundry	Tesat	Suitability Examination of a Commercial ASIC Technology for Space Applications	2010	2010	Urgent need for European independency
German Foundry	L-Foundry	Evaluation and Qualification (Capability Approval)	2011	2010	Existing need, especially for obsolete technologies
LTCC-Technik	Tesat	Evaluation and Qualification	2011		High reliable and fully automated production line
PoL-Converter	IHP	Evaluation and Qualification	2012		Capability Approval
PoL-Converter	Astrium	Radiation tests on a regulator component for short term realization of a discret PoL-Converter	2011 ?		Existing need
Chinese parts	Tesat	Follow-up activity Evaluation and Qualification	2011		Cooperation with CAST

Example of Consolidated Budget Table (partly blurred)

FKZ	Thema	AN/ZE	Laufzeit	Mittel- Abfluss	2011	2012	2013	2014	2015	Förder- Summe	Bearbeiter
Festlegungen: laufende Vorhaben				Stand: 7.1.							
50PS0606	Qualifikation: Assembly und Testhaus	Lewicki	09/06 - 12/11	0							Tetzl. Neuhs.
50PS0702	Unterstützung Bauteilequalifikationsaufgaben	TESAT	05/07 - 04/12	0							Tetzl. Neuhs.
50PS0704	GaN 1000V-Schalttransistor	TESAT	07/07 - 09/11	0							Tetzl. Neuhs.
50PS0705	Qualifikation eines MMIC-LO	KT	09/07 - 03/11	0							Tetzl. Neuhs.
50PS0802	Evaluation und Qual. von Dioden u. Hf-Transistoren	Infineon	07/08 - 08/11	0							Tetzl. Neuhs.
50PS0804	Evaluation des ppH15x-Prozess	UMS	07/08 - 07/11	0							Tetzl. Neuhs.
50PS0901	Detektor f. mikrobiol. Kontamin. ("Elektron. Nase", MLA))	EADS	10/09 - 03/12	0							Lenic Neuhs.
50PS0903	Power-MOSFETs: Produktentw. (u. Qual.) Ph.2	Infineon	07/09 - 10/11	0							Tetzl. Neuhs.
50RE0404	Beraterarbeiten Standardisierung	DLR	12/04 - 02/11	0							Jain Neuhs.
Zw.summe:				65%	0						
geplante Vorhaben											
a) Realisierung noch in 2011 (VE-relevant)											
50PS0705 (A)	Qualifikation eines MMIC-LO	KT	- 03/12								Tetzl. Neuhs.
50RE1102	Beraterarbeiten Standardisierung	DLR	03/11 - 12/13								Jain Neuhs.
50PS1001	Tauglichkeit kommerz. ASICs (L-Foundry)	TESAT	03/11 - 09/13								Tetzl. Neuhs.
50PS1102	HF-Zirkulatoren & -Isolatoren: Evaluation und Qual.	TESAT	05/11 (26 mon)								Tetzl. Neuhs.
50PS1103	Qual. eines CCGA-Lötprozesses für die Rf	tbd	05/11 (15 mon)								N.N. Neuhs.
50PS11-B	SiC-Dioden	tbd	06/11 (26 mon)								N.N. Neuhs.
50PS11-D	Chinesische Bauteile	TESAT	10/11 (3 y)								N.N. Neuhs.
50PS11-E	Update PS-Katalog 2011/2012	TESAT	07/11 (8 mon)								N.N. Neuhs.
Zw.summe:											
geplante Vorhaben:											
b) Realisierung ab 2012 (nicht mehr VE-relevant)											
50PS12-A	DC/DC- bzw. PoL-Konverter: Evaluation und Qual.		07/12 (2 y)								N.N. Neuhs.
50PS12-B	GaN - Aufbautechnik		01/12 (13 mon)								N.N. Neuhs.
50PS12-D	Bauteil-Qual.-Aufgaben		05/12 (5 y)								N.N. Neuhs.
50PS15-A	Update PS-Katalog 2015		03/15 (4 mon)								N.N. Neuhs.
PL-PS-00	Programmkorridor "Produktsicherung"	--	-- (-)								
Zw.summe:											



DLR EEE Parts Projects

Activity	Term	Status
PPH15-Process Evaluation	2003 - 2006	finished
Evaluation and Qualification of Thin Film Chip Resistors	2004 - 2008	finished
Evaluation and Qualification of Cables	2005 - 2009	finished
Qualification of Quartzes and Oscillators	2005 - 2010	in progress
Qualification of Microwave Connectors	2005 - 2011	in progress
Certification of an Assembly and Test House	2006 - 2011	in progress
Qualification of MMIC Local Oscillator	2007 - 2011	in progress
Development and Qualification of PowerMOSFETs	2008 - 2011	in progress
Qualification of Diodes and RF-Transistors	2008 - 2011	in progress
Evaluation of the UMS PPH15x Process	2008 - 2011	in progress
Development of a GaN 1000V Switching Transistor	2007 - 2011	in progress
Capability Approval of L-Foundry	2010 - 2013	In gprogress
Qualification of RF-Circulators / Isolators	2011 - 2013	planned
Capability Approval of IHP's SG13 Technology	2011 - 2013	planned
Qualification of a fully automatic LTCC Line	2011 - 2013	planned
Feasibility Study of the SiC Diodes Technology	2011 - 2013	planned

All projects under : www.dlr.de/qp/en/desktopdefault.aspx/tabid-3091/4699_read-6881/



Thank you for your attention!

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