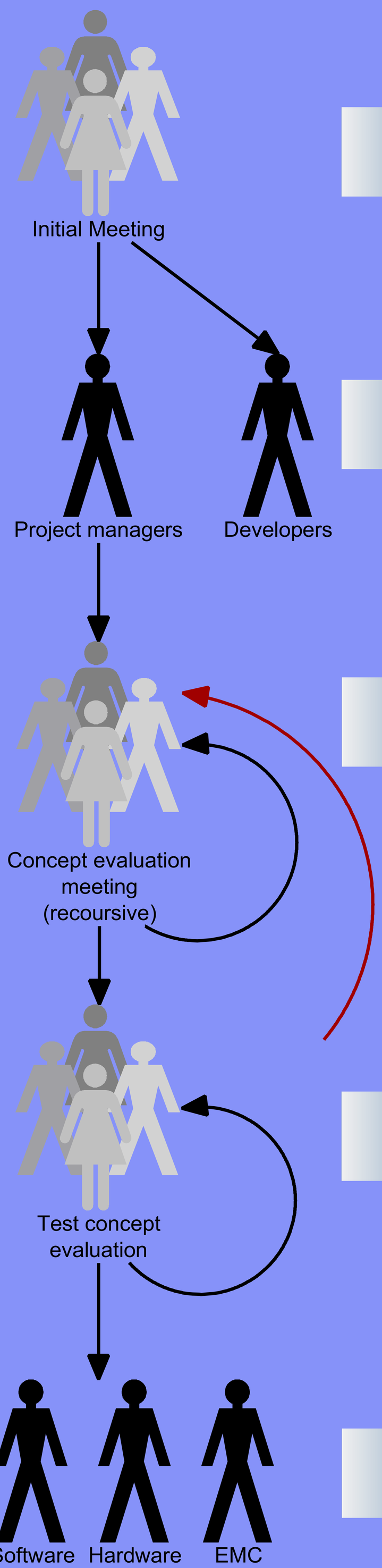
VDE testing- and Certification Institute

Certification of Safety critical Software in household appliances



1 Basic training (VDE & Client)

Tasks	
Clarify situation of client	Appliances, Risks....
Transfer basic know how	Standards, backgrounds, techniques
Discussion on projects	Possible solutions (hardware/ software)
Find a resume	Impact on products and development
How to continue	Next steps, future cooperation

1 day

2 Training plan and tool finding (client)

Tasks	
Training for	Methodical Software test
Training for Software developer	Embedded Software test
Tools and techniques	-Static analysis -Dynamic analysis -Unit tester -In-circuit emulator / debugger -Runtime error checker -Version history management

3a Hard & Software concept evaluation (VDE & Client)

Tasks	
Review of concepts	Risks, Hardware, Software
Hardware (2 failure theory)	ok ?
Self test routines (60730)	P.O.S.T. and B.I.S.T. ok ?
Methodical software test (61508)	Tools and measures ok?

3b Following up: The final situation

Safe states	List of possible safe states
Hardware solutions	Final hardware architecture
Software solutions	Final software architecture

1-4 days

4a Test concept evaluation review (VDE & Client)

Tasks	
Review of test-concepts	Combination of test measures
Static analysis, Misra compliance	ok ?
Self test routines / test on emulator debugger....	ok ?
Methodical software test (61508)	Slim V-Model tests ok ? (Specification, design, unit-test...) Test cases ok ?
Organizational structures	ok ?
Change impact analysis	ok ?

1-2 days

4b Following up: Performance of tests

Test results	List test results

2-5 days

5 Final Test at client's laboratory

Hardware	Witness re-test of various items
Software	Witness re-test of various items
EMC	Test in manufacturers lab or at VDE
Documentation check	Clients documentation complete ?
Test report generation	For certification

Docu. prep. 1-3 days

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