



Reliability Program Overview for Developers Overview

Amnon Ganot - September, 2010

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Course Objectives

- A good *reliability program* can drastically *improve product performance and longevity* as well as *minimize total Life Cycle Cost*, and can ultimately *improve customer satisfaction*.
- This course will present the *basic reliability concepts* and will give an understanding about how to *apply these concepts* in order to set up a good reliability program.
- The participants will be exposed to variety *types of failures*, the common *metrics* used to measure system reliability level, and the *toolbox* they can use to improve system reliability.


Course Objectives

- Awareness - Increase awareness to Design For Reliability need
- Working Methods – acquire and understand how to integrate aspects of Reliability in the design


The Lecturer




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 - MBA, Marketing & IT (1998, Tel-Aviv University)
 - 29 years experience (Service Engineer, System Engineer, Project Manager, RAMS Manager & RAMS Expert)
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Agenda



- *Overview*
- *Quality & Reliability*
 - Quality Definition
 - Reliability Definition
 - Unreliability Cost
- *Failure*
 - Definition
 - Sources
 - Types
 - Failure Mode
 - Failure Mechanism



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Agenda



- *Metrics*
 - Reliability
 - Failure Rate
 - MTTF / MTBF
 - Expected Life
 - MTTR
 - Testability
 - Availability
 - Reliability Growth



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Agenda



- *Toolbox*
 - Design
 - Tests
 - Monitor
- *Reliability Assurance Plan*
- *Summary*



Overview





Expectation Evolution



PROPERTY	“THEN”	“NOW”
MTTF (km, yrs)	~40K, ~2	>150K, >4
Warranty (yrs)	1	3 – 10
PM (km)	5-10 K	15-30 K
Performance	~100km/h, road	>130km/h + off rd
Price / gadgets	High / few	Low / many



Questions?



Thanks for your attention

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