

GRIPEN Effectiveness
Air Policing

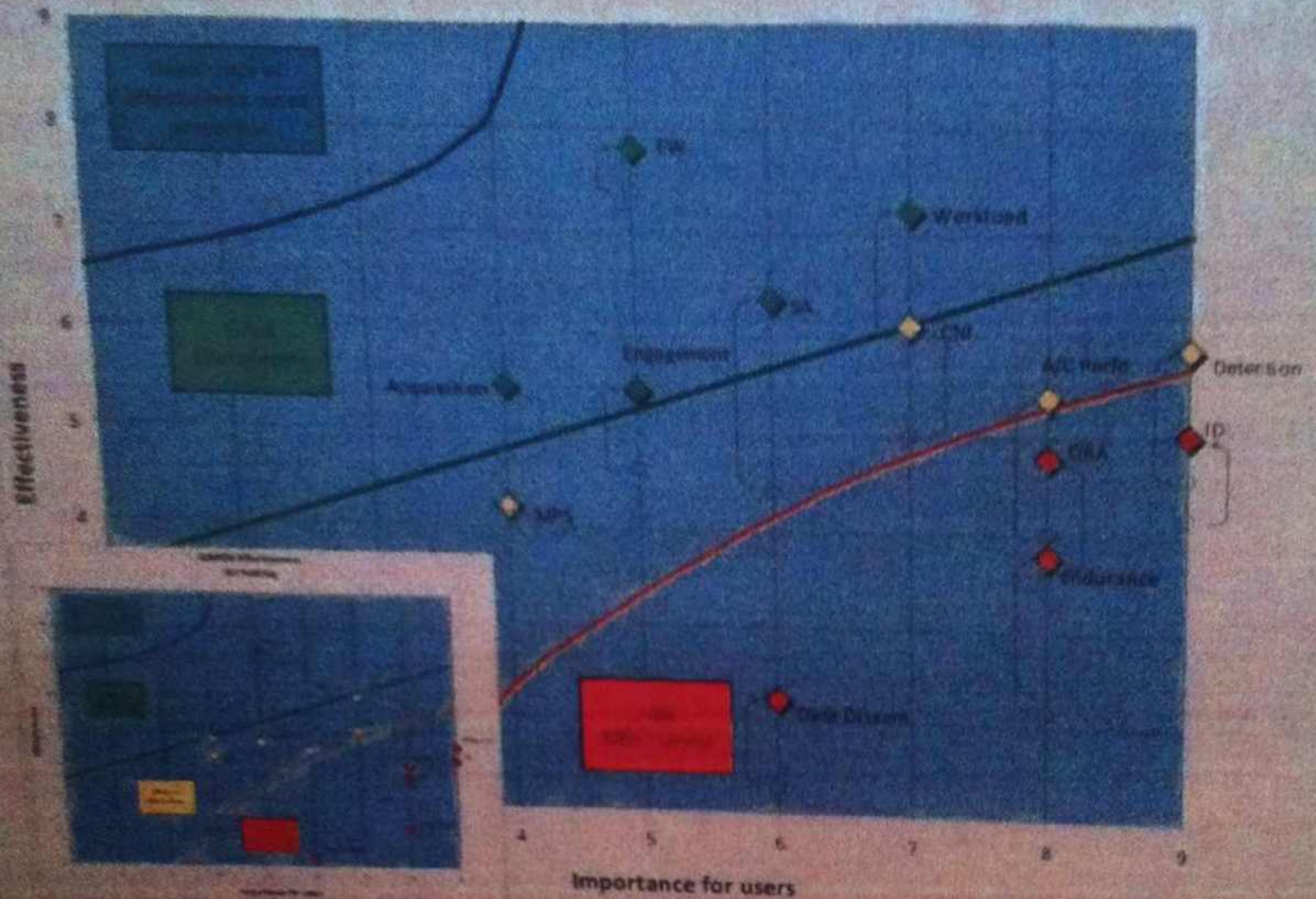


Fig. 2-1. Importance-Effectiveness matrix of the Gripen for the Air Policing domain. Grey circles were the results of the Flight Tests 2008. Results of Flight Test 2008 are also shown on a small scale graphic.

2.2.1. Conclusions

With the delivered Gripen version MS21, the Air Policing tasks will be improved in 46 domains. However, the most important Mission Essential Tasks for Air Policing missions will remain among the weak points. The Gripen MS21 will not be improved enough to pass the threshold of the limit of effectiveness acceptability (green line) to accomplish the most important tasks, such as Performances, endurances, QRA and identification stay with low to medium effectiveness. Among the 13 METs, 8 METs are still below the threshold of Effectiveness acceptability.

The overall estimated effectiveness of the Gripen MS21 after the upgrade does not exceed the threshold of "Meets minimum expected capabilities" (see Fig 2-4 & 2-5).

The Gripen MS21 could be engaged in all types of Air Policing scenarios, however, the likelihood of being unable to carry out with success AP mission is considered to be somewhat possible.

2.2.2. Recommendations

Because the Gripen MS21 have not been tested, OT&E Flight Tests in the Air Policing domain should be conducted in Switzerland to assess the real effectiveness of the high importance Mission Essential Tasks as stated above.

good effectiveness (score 7) for the user, a score of 3.5 is still acceptable. The user has never considered by the user, a score of 3.5 is still acceptable. The user has never considered with an insufficient (low) effectiveness and have the priority displayed in yellow zone for improvements. A visual comparison between Importance - Effectiveness matrix of each candidate can show the maturity of the aircraft to perform an Air Policing mission.

2.2. GRIPEN: ESTIMATED EFFECTIVENESS

Since the results of the Flight Tests period in 2008, Air Policing Missions Essential Tasks have been impacted by 46 of the 98 upgrades taken into consideration for the evaluation. The effectiveness score obtained during flight test 2008 is represented by a gray circle on figure 2-1. The gray arrow shows the delta effectiveness and points to the new estimated score obtained by all system upgrades.

There were no improvements rated at MPS level, because the MPS has to support all aircraft improvements as minimum expected capability.

Four (4) METs rated with a Medium effectiveness during Flight Tests 2008 have moved to the green zone (Good Effectiveness). However, high importance MET for Air Policing such as Endurance, QRA, Identification, A/C performances and Detection have been improved but remains below the limit of acceptability to accomplish the task. These tasks were qualified with a Medium to Low Effectiveness.

Performing Air Policing missions in small country like Switzerland requires aircraft with a good effectiveness in performances, endurance and QRA. For Intervention out of QRA (Low Effectiveness), the time lost during QRA has to be compensated with speed and enough fuel to intercept, intervene and land to a divert base. However, Performances and Endurance have insufficient effectiveness to compensate the low effectiveness QRA.

For intervention out of CAP (with external fuel tank), the Gripen should be still able to accelerate and intercept the "Bogey" before it reaches a high value target in Switzerland or cross the Swiss border.

⁴ A description of the Importance - Performance Matrix is given in annex 1 of section 3.

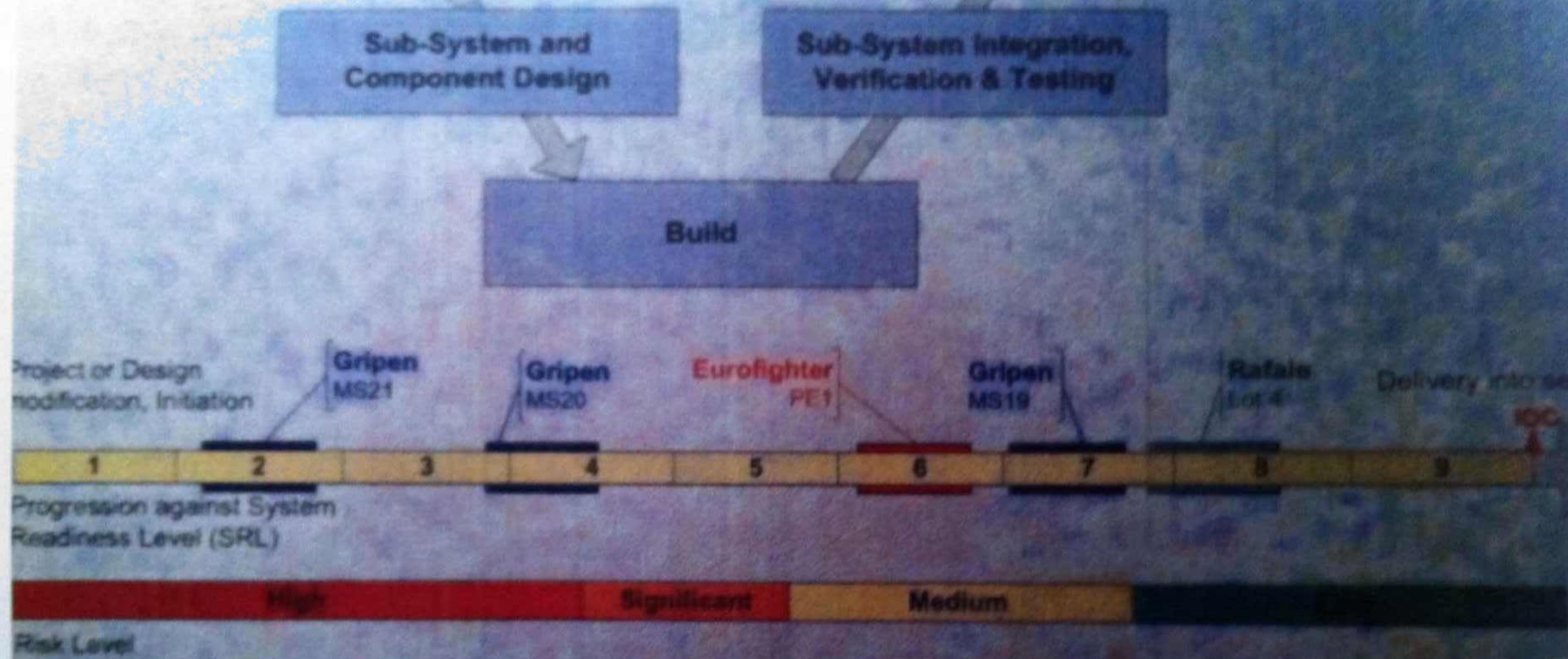
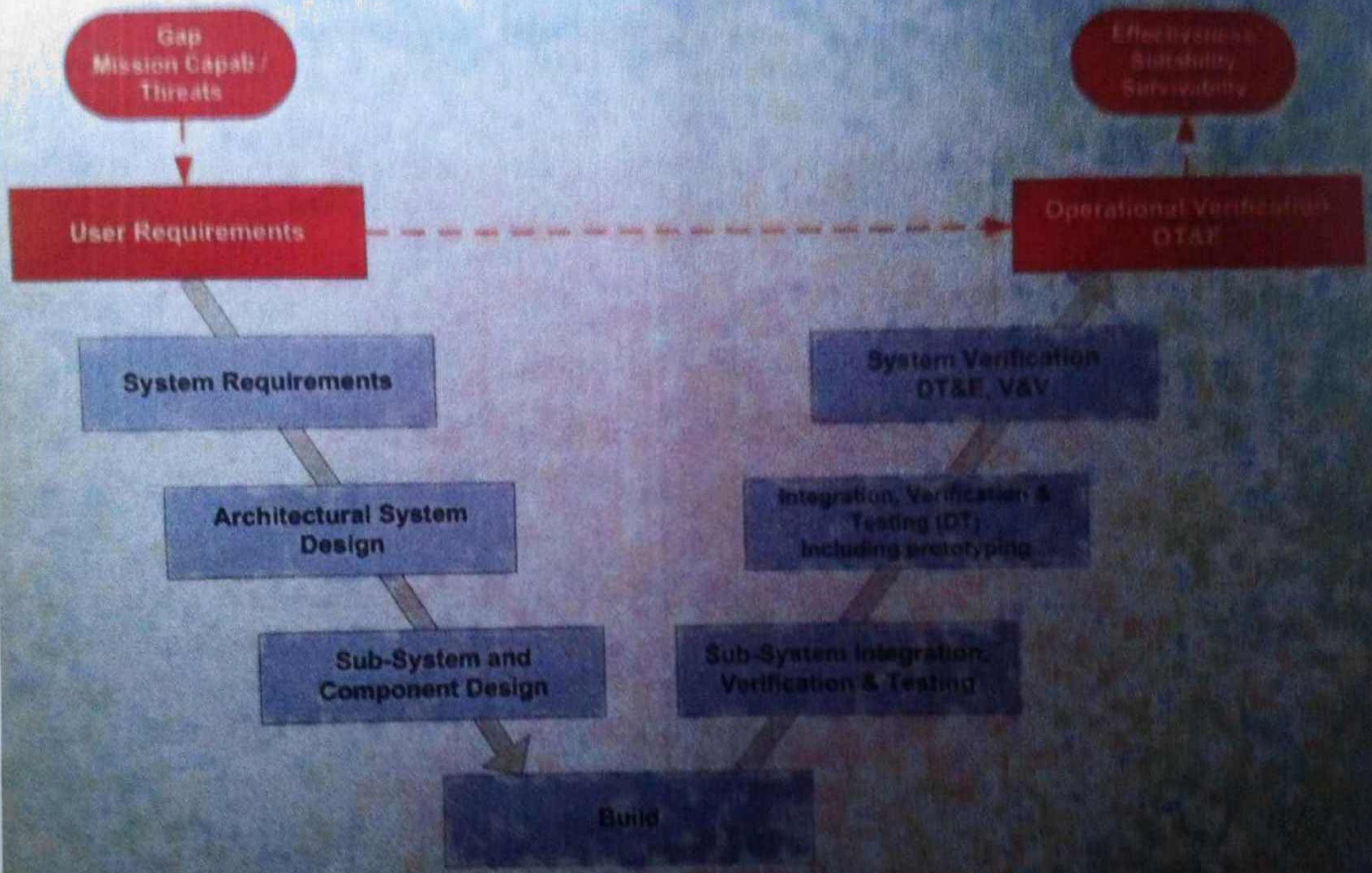


Fig. 1-4. System Readiness Level of each NFA Block Upgrades



Gap
Mission Capab /
Threats

Effectiveness
Suitability
Survivability

User Requirements

Operational Verification
OTAT

System Requirements

System Verification
OT&E, V&V

Architectural System
Design

Integration, Verification &
Testing (IT)
Including prototyping

Sub-System and
Component Design

Sub-System Integration,
Verification & Testing

Build

Project or Design
modification, Initiation

Gripen
MS21

Gripen
MS20

Eurofighter
PE3

Gripen
MS19

Falco
MS18

Delivery and Support

