

Integrating Innovative Air Power Facing 21st Century Strategic Challenges

The RAAF's Plan Jericho



- Why ?
 - What ?
 - How / When ?
 - So what ... ?

Air Vice-Marshal John Blackburn AO (Retd)
Deputy Chairman, Williams Foundation



THE SIR RICHARD
WILLIAMS
FOUNDATION

March 2014 Seminar

Air Combat Operations

2025 And Beyond

- **Concepts and CONOPS**
- **Joint Effects**
- **Legacy 4th Gen systems**
- **Enabling Systems**
- **Capability Upgrades**
- **People & Training**
- **Our collective mindset and thinking ...**

... the potential impact of the 5th Gen capabilities

Extracts from RAAF CAF Williams Seminar speech



➤ **5th Gen Implications for the pilot:**

- Sensors require little if any manual manipulation;
- Fused picture is presented to the pilot on a single display;
- Inter-flight comm is significantly reduced;
- Pilot has more brain-space to be a tactician rather than a sensor operator and data fuser
- Faster and more accurate decisions
- Massive generational leap in Situational Awareness
- Ability to forward plan and allocate resources pre-emptively

➤ **5th Gen Implications for Air Battle Management ? :**

- We need a generational change in the ISR, network and Comms systems and other capabilities that will support the F-35 is we are to get the most out of the aircraft's capabilities ...
- **We must continue to think about and analyse how we employ all of our air combat systems as a system of systems in our regional security setting and within the rapidly changing technological environment.**

Extracts from RAAF CAF Williams Seminar speech



➤ 5th Gen Implications for the pilot:

- Sensors require little if any manual manipulation;
- Fused picture is presented to the pilot on a single display;
- Inter-flight comm is significantly reduced;
- Situation awareness is significantly improved.

➤ What is a 5th Gen / 5th Gen enabled Force ?



➤ CAF view – a Force with :

➤ vastly improved shared situational awareness



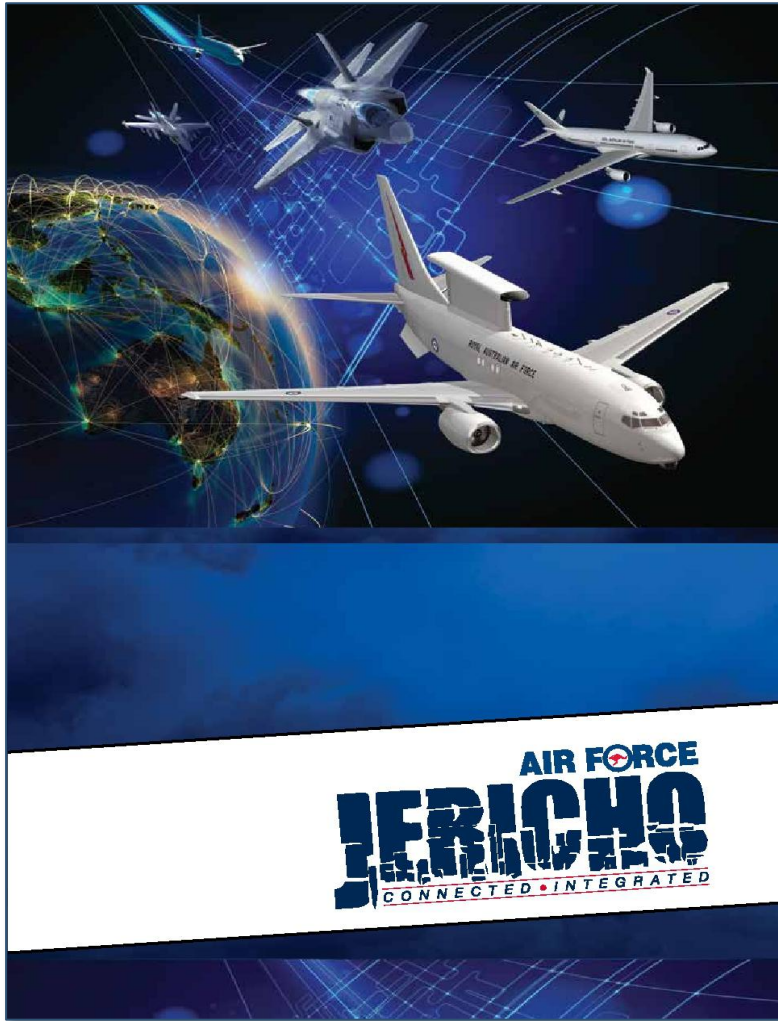
5th C

➤ the ability to operate as an integrated team ...



➤ *... the term is a lever for joint integration ...*

security setting and within the rapidly changing technological environment.



February 2015



Plan Jericho is Air Force's plan to transform into a fully integrated force that is capable of fighting and winning in the information age.

Jericho Vision: To develop a future force that is agile and adaptive, fully immersed in the information age, and truly joint.

This is not the final plan, but rather the first step to meet our challenge of transformation for the future.

Why ?

A New Era for Command and Control of Aerospace Operations

Lt Gen David A. Deptula, USAF, Retired

*The AOR will become a CAOC.
Gen "Hawk" Carlisle
—Commander, Pacific Air Forces*



Control of the aerospace environment is a fundamental prerequisite to successful operations in the physical domains of air, sea, land, and space. Once established, such control facilitates the freedom of action and movement for all joint forces. Accordingly, command and control (C2) of aerospace operations are critical functions that must be a priority for the Department of Defense.

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- People & Training
- Our collective mindset and thinking ...



A 21st-century Concept of Air and Military Operations

by Robbin F. Laird

Overview

The evolution of 21st-century air operations is unfolding under the impact of a new generation of fighter aircraft and a significant shift in the role of air operations in support of ground and maritime forces. So-called fifth-generation aircraft often are mistakenly viewed as simply the next iteration of airframes, but, steady replacements of obsolescent legacy platforms. In fact, the capabilities of fifth-generation aircraft, and their integration into a network-centric joint force, will change the roles of manned fighter aircraft in air, ground, and maritime operations. These changes are so far-reaching that the Services face the challenge of crafting a new concept of 21st-century air operations, indeed, of all combat operations.

Historically, fighter aircraft have operated mainly within the classic demands of air operations in the distinct roles of air superiority, air dominance, air defense, strike, and support. Numerous models and modifications of the first three generations of fighters were assigned separable tasks to be performed in sequence. (See box on the next page for a discussion of the five generations.) As the capabilities of fighters increased, the old distinctions blurred, particularly with the introduction of fourth-generation, multirole fighters. Fifth-generation aircraft coming online now will transform the roles of all air elements, including legacy aircraft, and lead to a new concept of operations. Designed (or redesigned) and built in the information age, these aircraft take full advantage of and contribute to the networking of U.S. Armed Forces. The result is a fully capable, distributed approach to air operations that enables the United States and its allies to support the full gamut of military missions. Multidomain aircraft enable global multidomain operations for U.S. joint forces.

March 2009

Toward a New Concept

Air operations are a significant component of 21st-century U.S. and allied joint and coalition operations. As fifth-generation aircraft enter service in larger numbers, they will generate not only greater firepower, but also significantly greater integrated capability for the nonkinetic use of aircraft and an expanded use of connectivity, intelligence, surveillance, and reconnaissance (ISR), communications, and computational capabilities built around a man-machine interface that will, in turn, shape the robotics and precision revolutions already under way. The capability of air assets to connect air, ground, and maritime forces throughout the battlespace can support the decisionmaking of ground and maritime command elements. Indeed, the command, control, communications, computers (C²) and ISR envisaged in networked operations is becoming reshaped into C² and ISR, whereby decisionmaking (D) is shared across the battlespace. Distributed information and decisionmaking will be enhanced as air operations become much more capable of providing information in support of the deployed decisionmaker, and kinetic and nonkinetic support elements can be used in support of air, ground, and maritime combat requirements.

A RAND Corporation brief on air combat issued in August 2008 generated debate about U.S. air capabilities in difficult future combat scenarios.¹ In particular, the F-35 came under scrutiny in much of the political and analytical coverage. The RAND brief and the reactions to it are a good starting point for discussion of the changing nature of air operations induced by the introduction of the new manned aircraft.

The RAND analysts focused on a core challenge facing the Air Force in the 21st century, namely, the evolving capabilities of competitors' air systems and counterair capabilities. In particular, the RAND study focused on a 2020 scenario over the Taiwan Strait in which Chinese forces sought to deny air superiority to the United

Defense Horizons 1

Organic Design for Command and Control

John R. Boyd

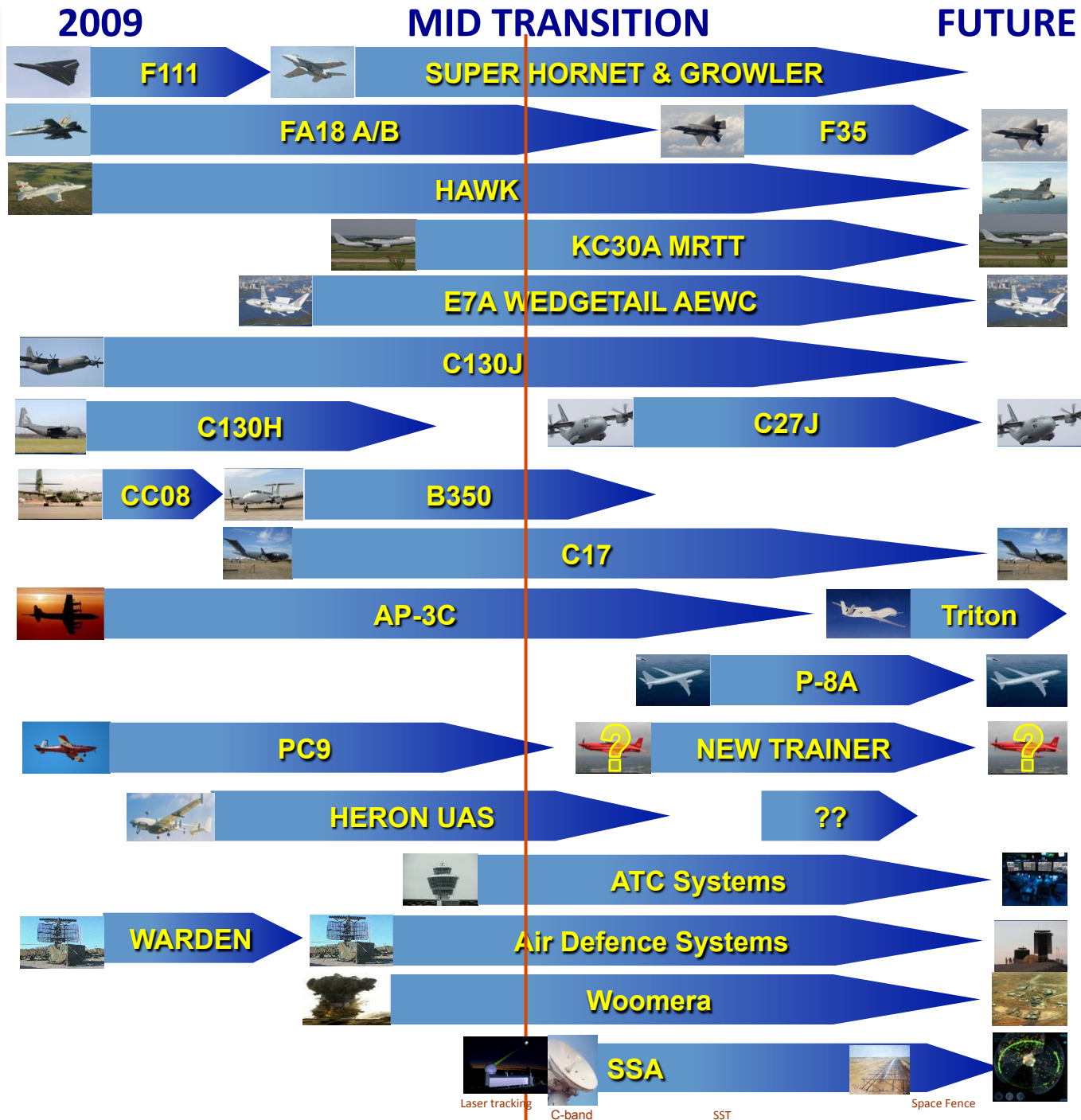
Edited by Chet Richards and Chuck Spinney
Produced and designed by Ginger Richards

For information on this edition, please
see the last page.



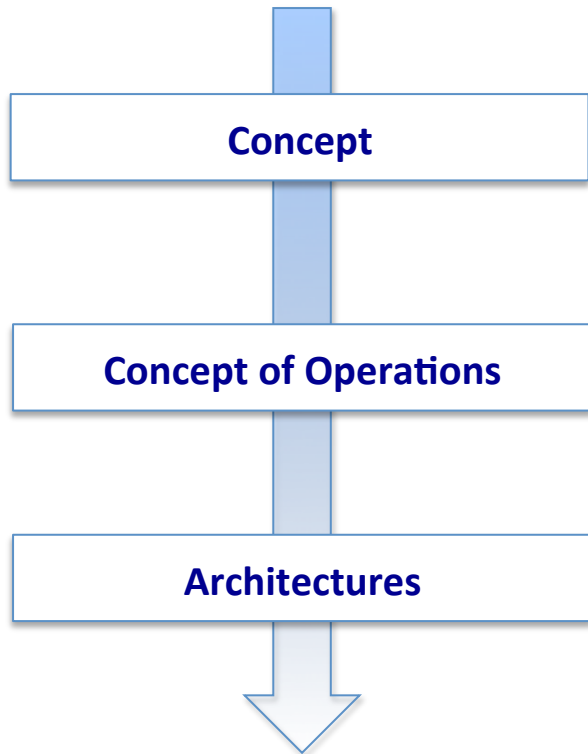
Why ?

Air Force Transition

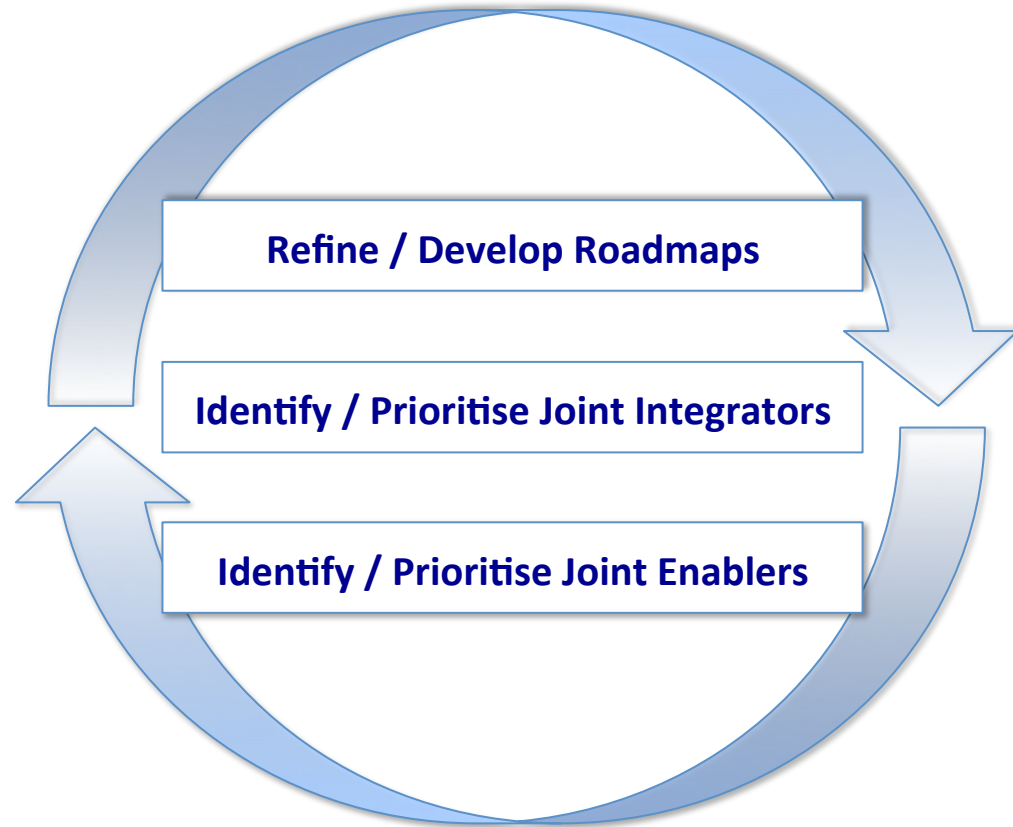


Why ?

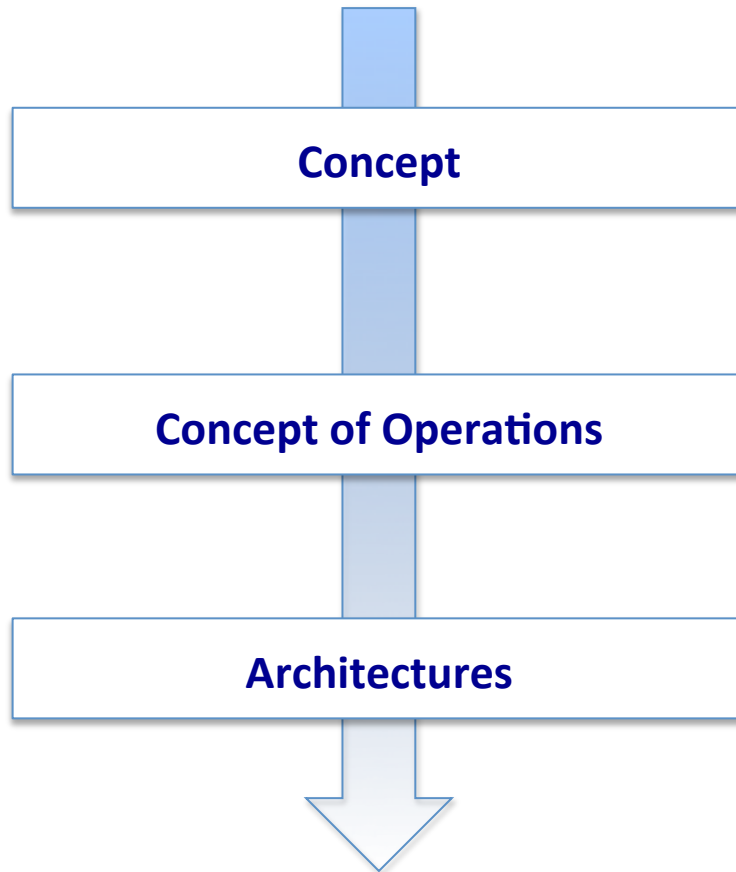
Context for future Capability Decisions



"System of Systems" View



What ?



= Context for future Capability Decisions

- **Step 1:**
 - Develop a 5th Gen “narrative” to explain the opportunity that the JSF offers to provide the basis of a 5th Gen / Enabled Force Concept

- **Step 2:**
 - Develop an example 5th Gen/ enabled **future CONOPS e.g. Air Battle Management**
 - Develop a high level 5th Gen / enabled Air Ops architecture

What ?



Refine / Develop Roadmaps

Identify / Prioritise Joint Integrators

Identify / Prioritise Joint Enablers

= "System of Systems" View

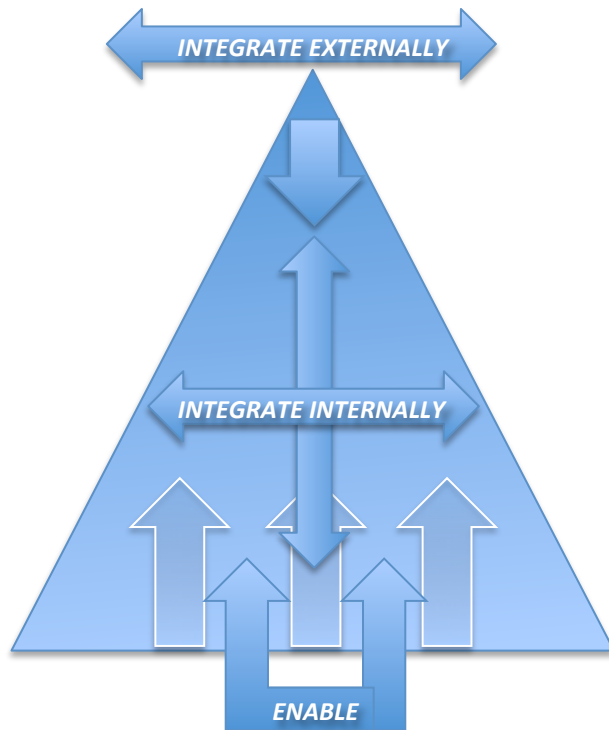
➤ **Step 3:**

- Develop individual capability roadmaps based on existing plans that will identify gaps and disconnects with a 5th Gen CONOPS

➤ **Step 4:**

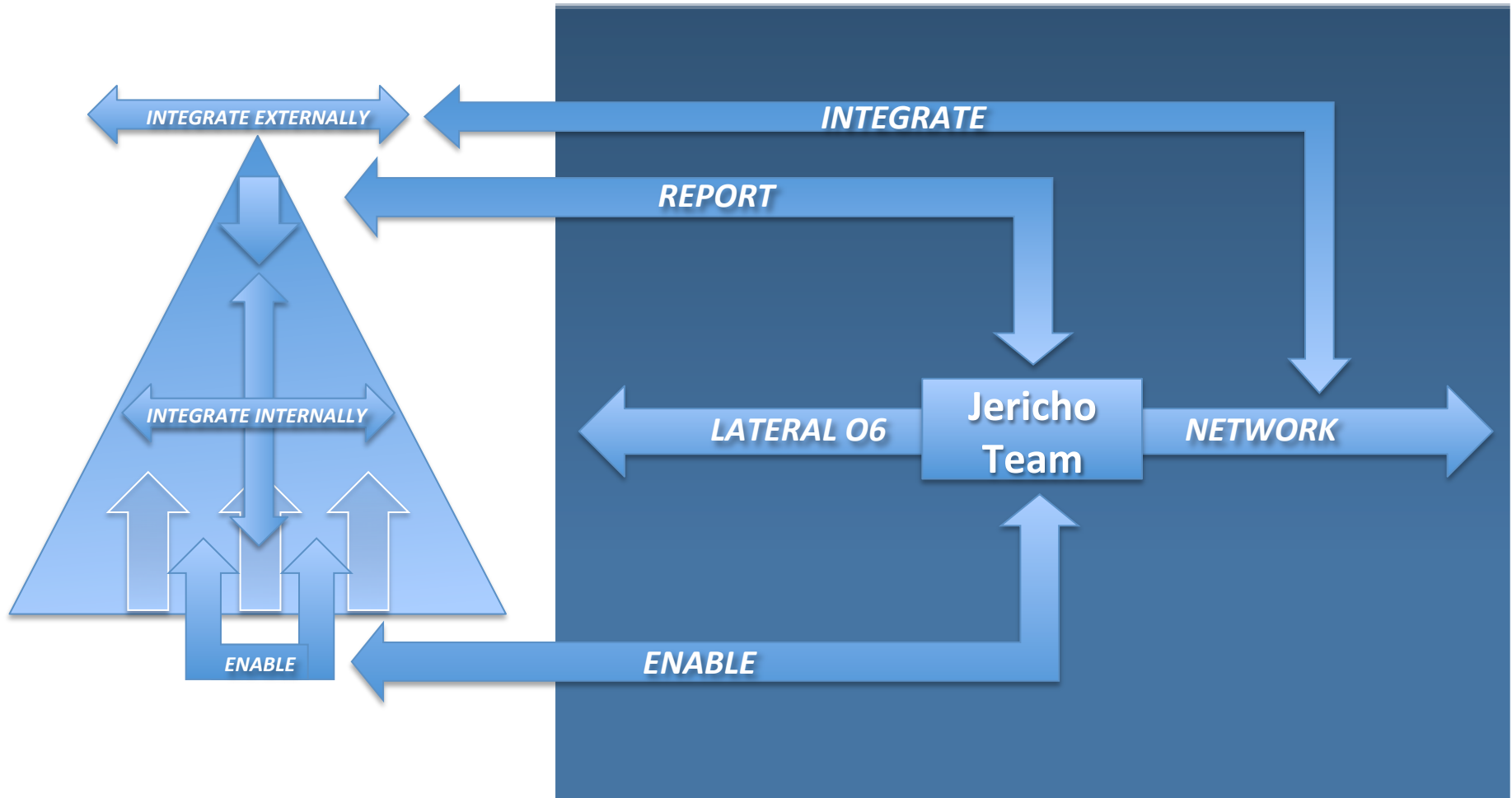
- Identify critical Joint Integrators and Enablers
- Identify impacts of delays to Integrators and Enablers on 5th Gen capability
- Prioritise Integrators and Enablers based on capability impacts.

How ?

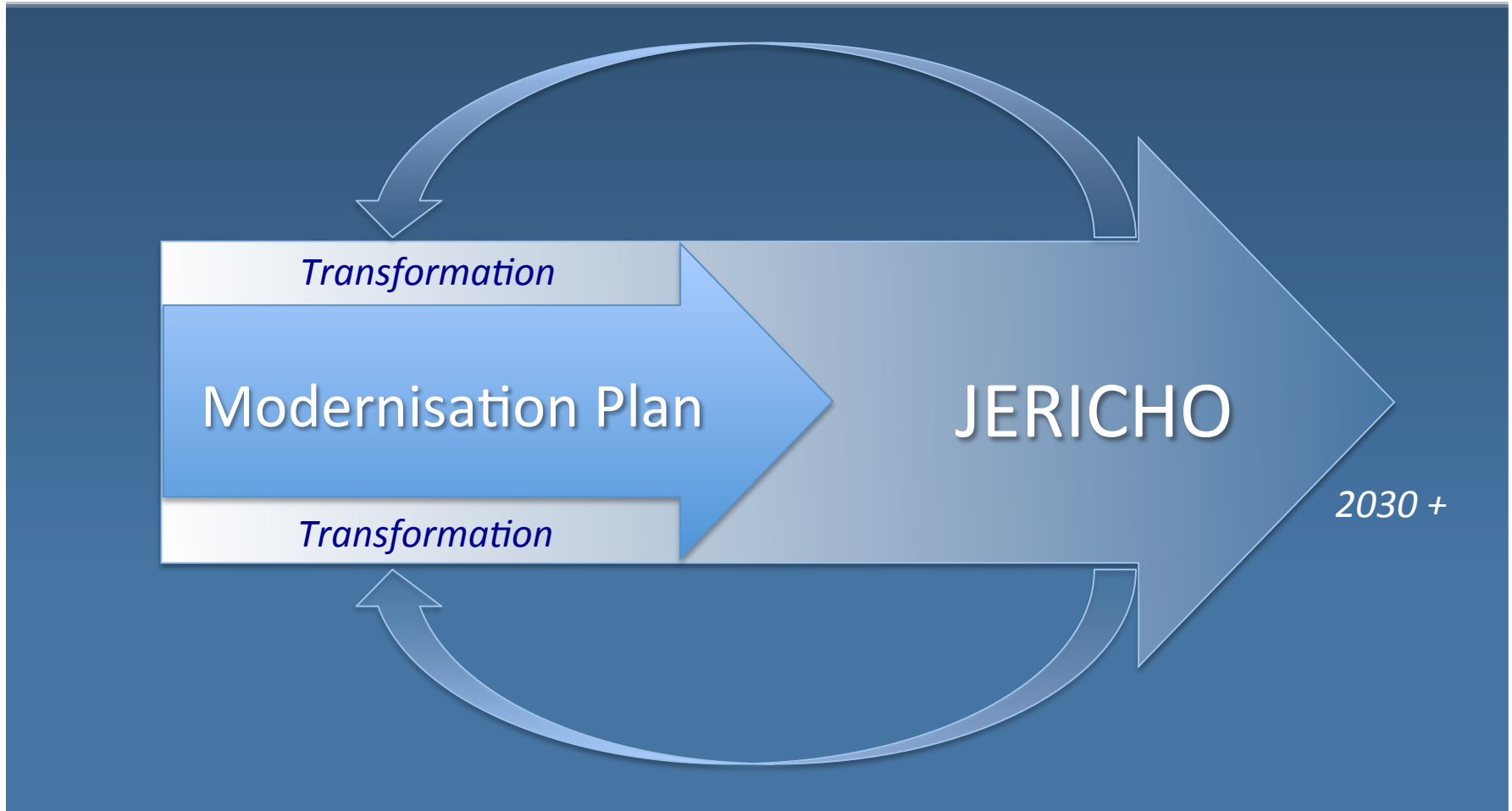


- Create a Jericho team that will design, share and guide change – a different mode for a different age ...
- New model the result of past change experiences ...
 - team selection ?
- Will integrate vertically, laterally and externally to enable ...
- The Jericho team will build shared SA, design, enable and support integration
 - inside the system, but also “outside” the traditional command chain ... across Defence

How ?



How ?



Breaking Down the Barriers ... Joint Force Integration

How ?

Spiral Development ? ...

What can/will the RAAF be able to do?

Modernisation

Jericho Transformation Initiatives

Transformation

Future Initiatives

Jericho Gaps to be explored ...

Experimentation / Innovation

Breaking Down the Barriers ... Joint Force Integration

When ?

RAAF CAF Directions -

- **Launched Plan Jericho - *February 2015***
- **Established Jericho Team model – *O6 led in March 2015***
- **Draft the future CONOPS - *in 2015***
 - **Update C4ISR architecture / processes**
 - **Align Capability Roadmaps, Integrators and Enablers**
- **Establish an Air Warfare Centre -*by January 2016***
 - **Cross Group /Service innovation, experimentation & integration**
 - **Concept demonstrators –*e.g. OSA network demonstrators***
- **Prioritise acquisition of an LVC capability**
- **Reassess acquisition and sustainment models**
- **Industry partnerships above the project level**

So What ?

Where to now ? -

- Jericho Design Principles:
 - Strategy led: compass versus map
 - Top-down design meets bottom-up innovation
- Integration challenge – internal, external and coalition
 - Classification and Culture issues
- Need for shared knowledge / ideas / lessons
 - *NCW lessons?*
 - The challenge of scale ... US / allies / coalition partners
 - Top down design implies coalition design at systems level ?
- *How can a wide range of “Air” Forces work together ?*

Breaking Down the Barriers ... Joint Force Integration