



new
southern
— sky —

Briefing to Met Symposium

Steve Smyth

Director New Southern Sky

A national, benefits led programme – spanning a decade

- Safety benefits
- Environmental benefits
- Economic benefits
- Social benefits

Partners are Civil Aviation Authority (CAA), Ministry of Transport (MoT), and Airways – not a legal arrangement

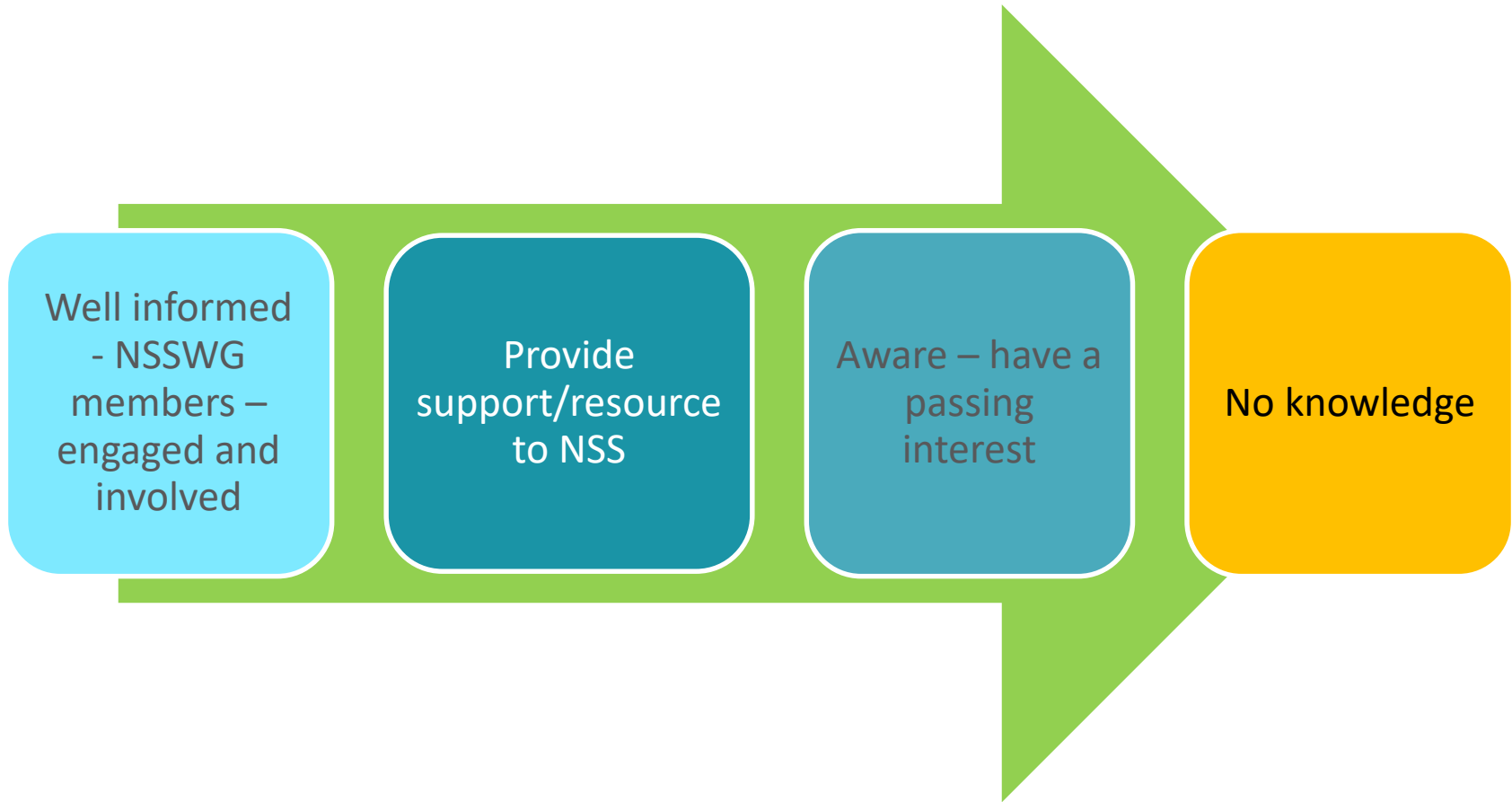
AIRWAYS
making your world possible

CAA
CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

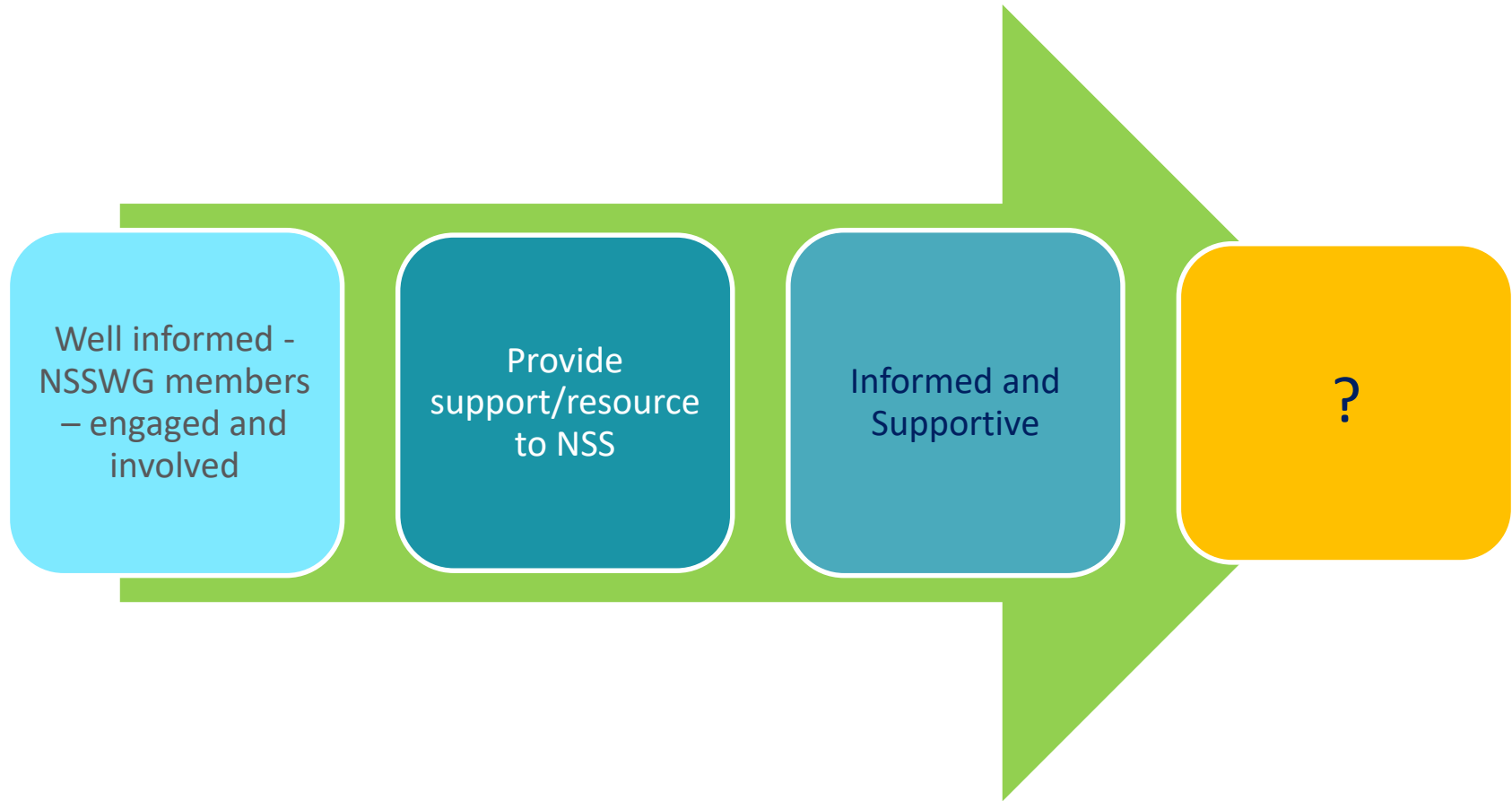
 Ministry of **Transport**
TE MANATŪ WAKA

new
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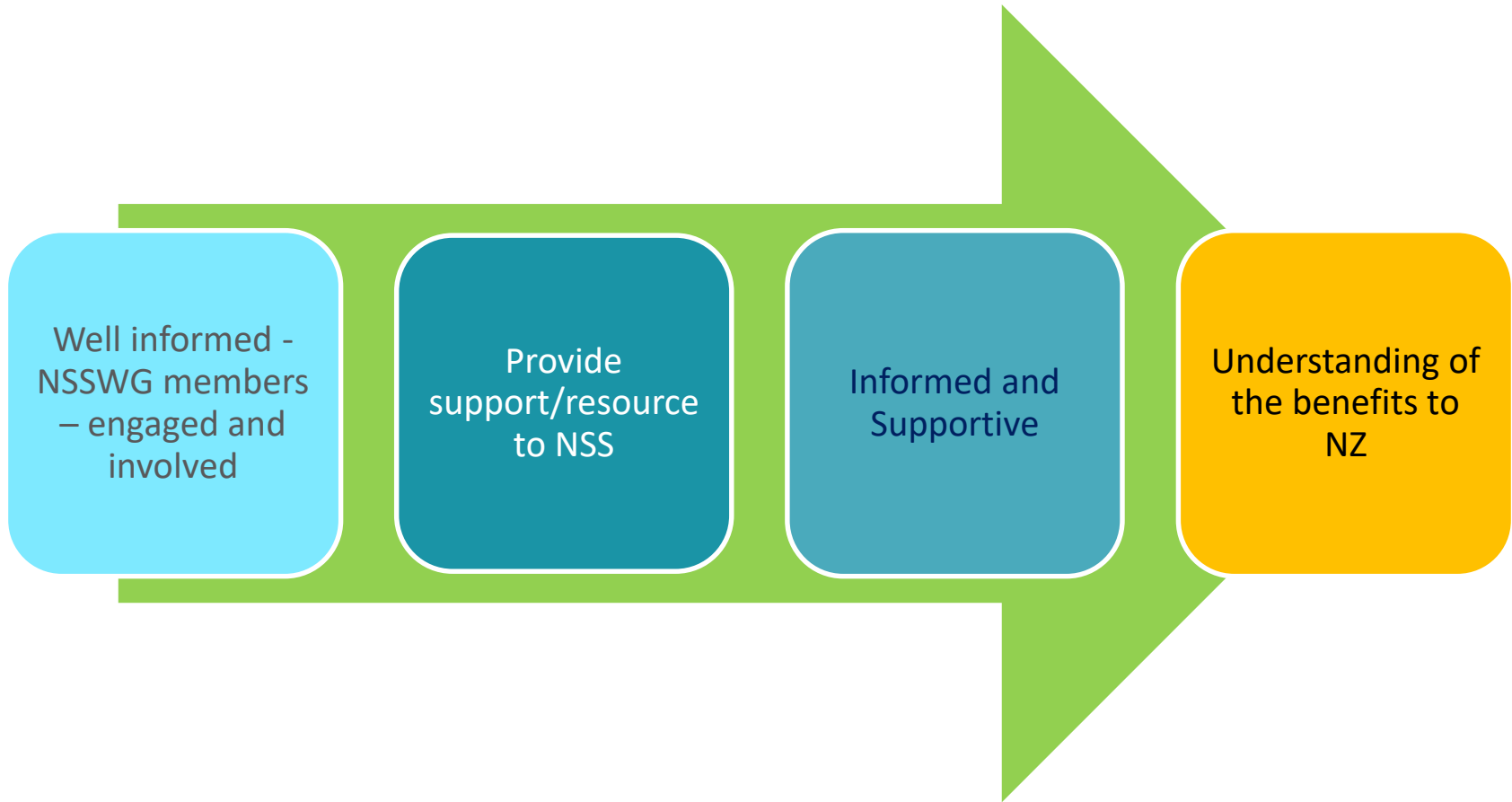
The Make up of Today's Audience



Audience Migration

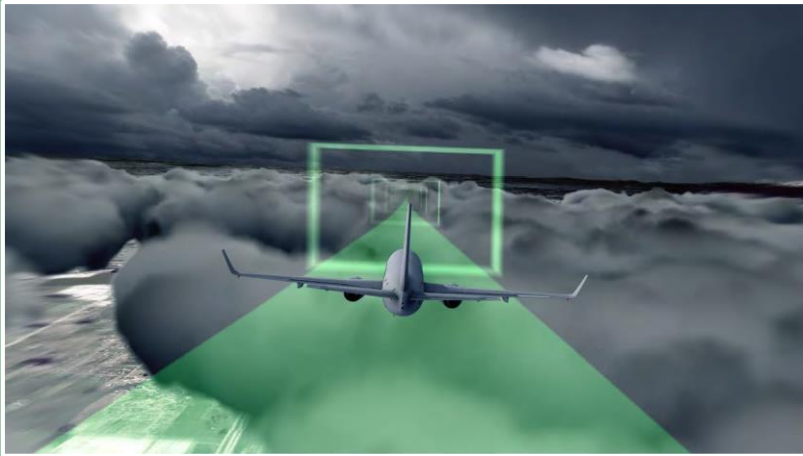


Aim of Today's Briefing



The value proposition

Coordination of infrastructure delivered by stakeholders



Digital



Physical

Rules

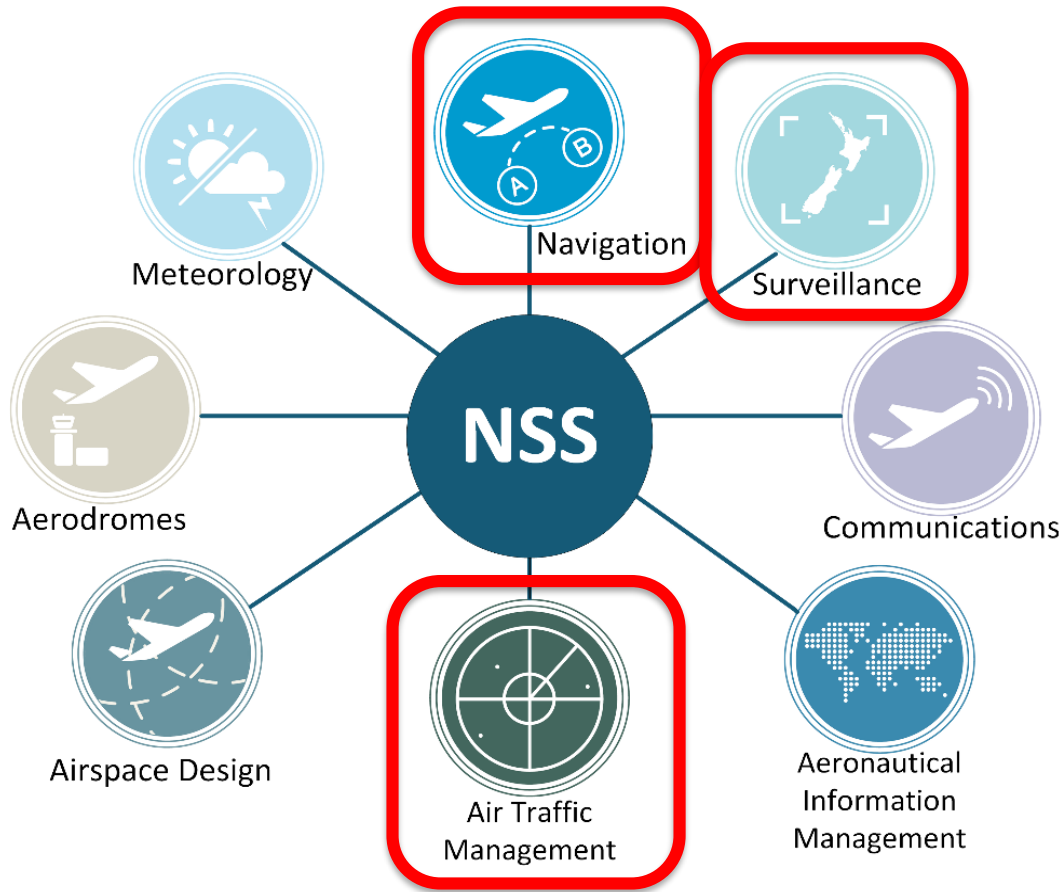
Advisory
Circulars
(ACs)

Guidance
material

Education
campaigns

Delivered by CAA and Ministry of Transport

The 'Big Ticket Items'



NSS Programme on a Page

	Stage 1 2014-15	Stage 2 2016-18	Stage 3 2019-23
Navigation Getting from A to B	Mixed mode: moving to performance based navigation.	Introduction of exclusive PBN environments.	Full PBN environments with system redundancy.
Surveillance Who is where in the sky	Planning for progressive implementation of ADS-B.	ADS-B mandatory airspace above FL 245 and CTA or major international airports.	ADS-B mandatory in all controlled airspace. Contingency surveillance network in place.
Communications Aircraft talking to other aircraft and the ground	Business as usual with transition from AFTN to AMHS.	Introduction of new protocols, methods and technologies. Review demand for data-link technology in domestic airspace.	Transition to ATN. Accept SATVOICE for primary communications. Implement results of review of data-link technology.
Aeronautical Information Management Information for pilots and crew	Going digital: complete transition from AIS to AIM in accordance with ICAO roadmap.	Integration of data and systems.	Real-time availability of data into aircraft.
Air Traffic Management Efficient and safe use of airspace	Infrastructure, procedure and tool development towards trajectory-based management. Education and training.	Implementation of trajectory based management tools with training and education.	Trajectory-based management in place supported by integrated information and collaborative procedures.
Air Space Design Who can fly where	Review existing designations, develop methodology and triggers for future reviews.	Full review of New Zealand airspace.	Ongoing review of airspace impacts from new technologies.
Aerodromes International airports to grass strips and everything in between	Establish collaborative decision-making forums.	Policy developed on aerodrome critical infrastructure and contingency needs for New Zealand.	All aerodrome master plans reflect the objectives and action of the New Southern Sky Plan.
Meteorology Weather information for aviation	Develop IWCOM format for weather.	Integration of weather data with aeronautical information.	Weather into the cockpit in real time.

NSS benefit delivery infometric



Benefits delivery through new **Performance Based Navigation, Surveillance and Air Traffic Management** technologies



Safety Benefits

2.2M more passengers per annum better protected by aircraft approach paths with vertical guidance.



Environmental Benefits

4.8M Kg less CO2 per annum.



Economic Benefits

\$128M in direct benefits (costs avoided).



Social Benefits

Supporting increased numbers of domestic and international passengers through major airports.



Wider Economic Benefits

National benefit of **\$904M** over 20 years.

Continuous descent PBN approach

Reduced power settings, less noise, more fuel efficient, more environmentally friendly



Conventional step-down approach

More engine noise, less fuel efficient, less environmentally friendly

Evidence based – significant and positive

High degree of certainty in the results

Results have been briefed to the Ministers

Programme Challenges

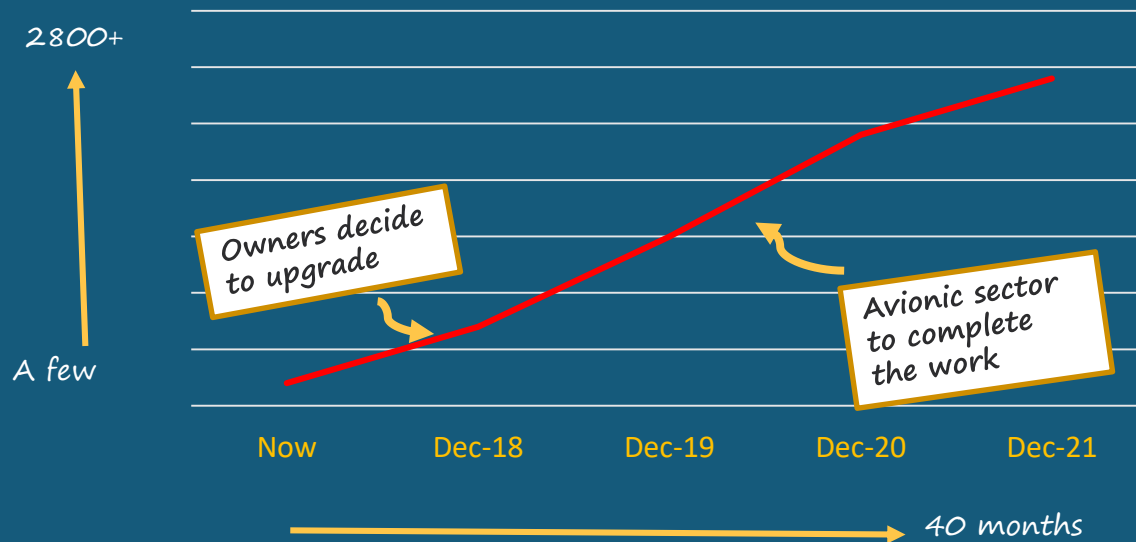
Focus on ADS-B below FL245 in Controlled
Airspace





new
southern
sky

Aircraft upgraded



In a perfect world... this happens

Why is this important?

The NSS approach is system based

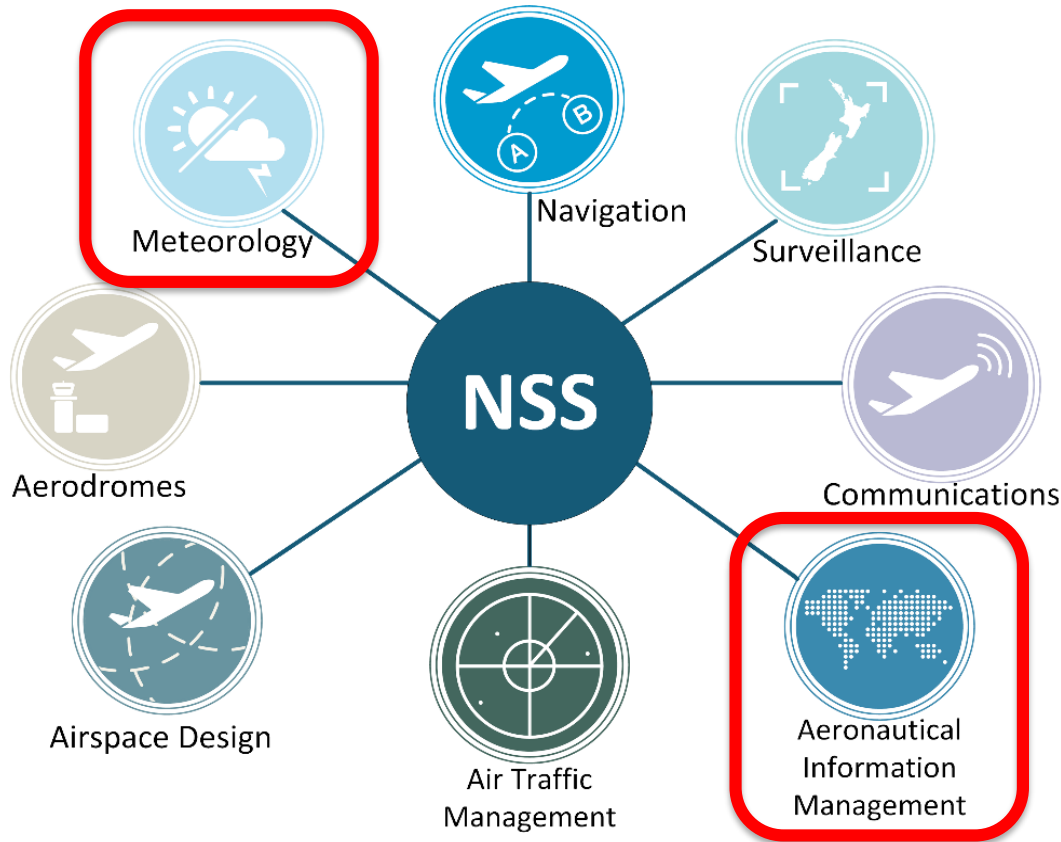


Get one part wrong – it affects the rest of the system



Get it right – benefits enhanced by being mutually supporting

The System Enablers



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The System Enablers

Digital products in particular are the system enablers

The right information, available at the right time, to the right people

Met products becoming increasingly important to delivery of Benefits
(Safety and Economic)

Much of this delivered by SWIM enabled systems

Benefits

ASBU	Block 0	Block 1
AMET – Met info supporting enhanced op efficiency and safety	Enhanced operational decisions Forecasts Aerodrome Warnings Sigmet	Enhanced op decisions through integrated met Optimum flight profile planning In flight avoidance hazardous weather Standards for global exchange of MET info
Improved airport ops through airport collaborative decision making (ACDM)	Improved airport ops through CDM	Optimised airport ops through CDM

Benefits: Higher level of safety; fuel saved; happier passengers

Thoughts on Collaboration

- Synergies of new Met decision support tools enabling NSS capabilities Airport CDM/Met CDM
- Exploit the ability of Met decision support tools to enhance new ATM capabilities

Communications



www.nss.govt.nz



NSS Twitter account



NSS Linked In Group

Questions ?