

SMS – Misurare la sicurezza Scelta e utilizzo dei KPI

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COMPANY INFORMATION



FLEET



The Alitalia fleet, among the most modern in Europe, comprises 140 aircraft. By the end of 2012, the fleet will be completely renewed.

NETWORK



In the winter season, the Alitalia Group provides service to 79 destinations, 22 in Italy and 57 in the rest of the world for a total of 143 routes served with more than 4200 weekly flights.

COMPANY



Alitalia is the main passenger transport group in Italy and among the leading players in European air transport.



SKYTEAM

SkyTeam, the global alliance of 18 airlines offers 993 destinations worldwide. >>



SAFETY MANAGEMENT SYSTEM

A systematic approach to **managing** safety, including the necessary organizational structures, accountabilities, policies and procedures

SAFETY

The state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, **an acceptable level** through a continuing process of hazard identification and safety risk management



ICAO ANNEX 6

States shall require, as part of their State Safety Programme (SSP), that an operator implements a Safety Management System (SMS) acceptable to the State that, as a minimum:

- a) identifies safety hazards;*
- b) ensures the implementation of remedial action necessary to maintain agreed safety performance;*
- c) provides for **continuous monitoring** and regular assessment of the safety performance; and*
- d) aims at a continuous improvement of the overall performance of the safety management system.*



Our goal: extract safety intelligence from data

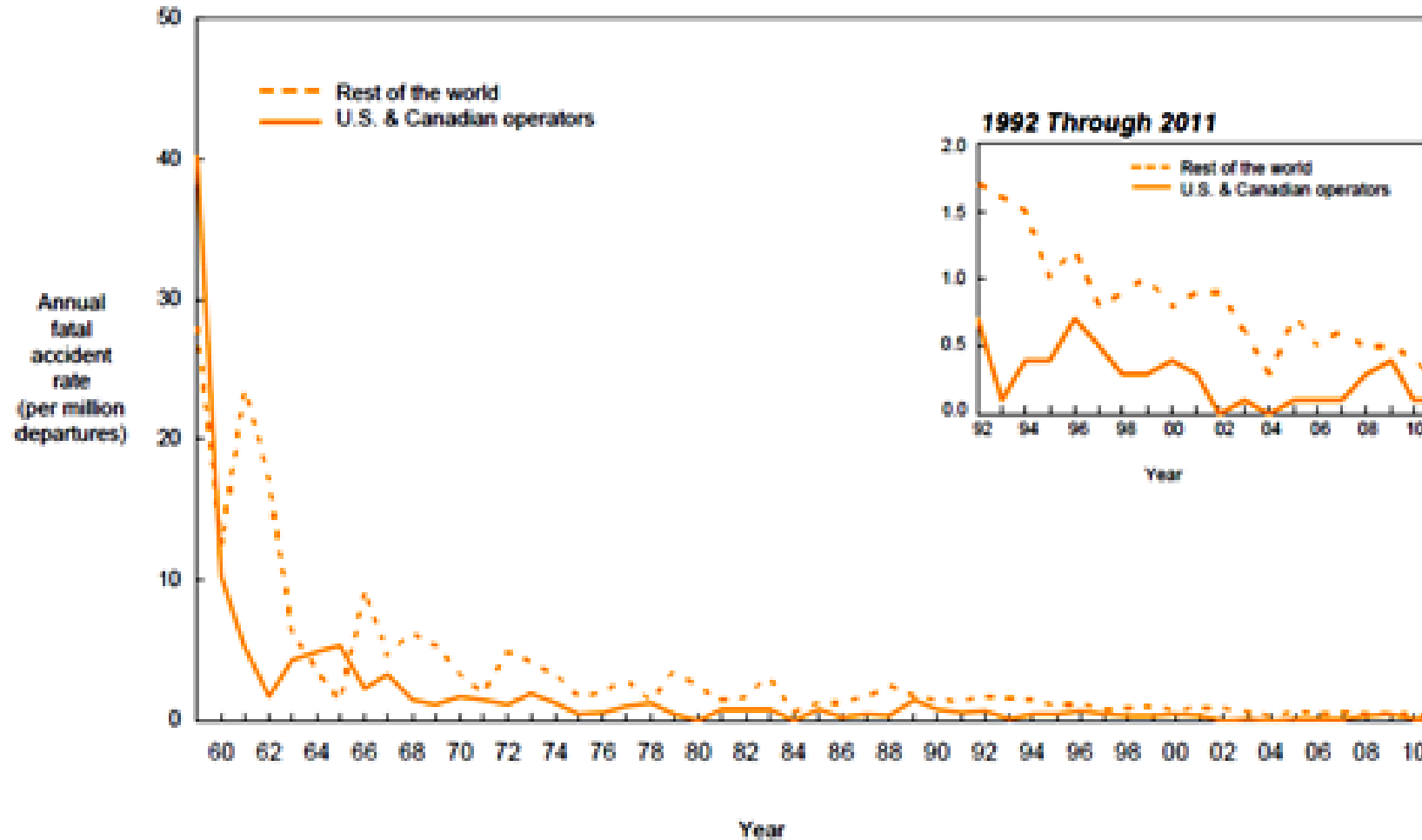
What we need:

- Short-term quantitative indicators reflecting the safety performance of an SMS
- Safety performance indicators commensurate to the complexity of individual service provider specific operational context
- Predictive Indicators

ACCIDENT RATES: STILL A MEANINGFUL KPI?

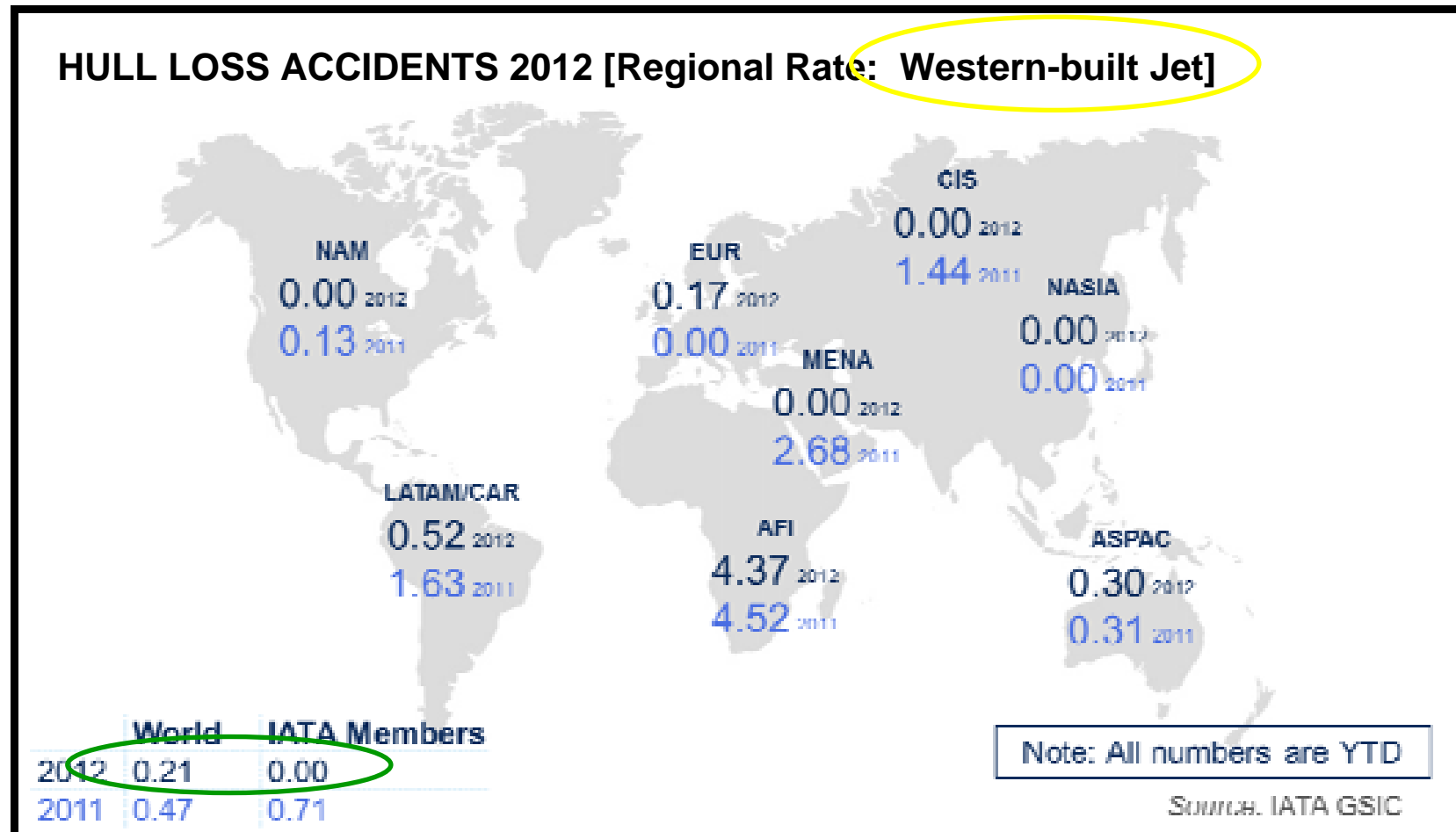


FATAL ACCIDENT RATE 1959-2011– CAT - JET



[BOEING Data]

ACCIDENT RATES: STILL A MEANINGFUL KPI?



0,21 means.....1 Hull Loss Accident x 4.700.000 Sectors

ACCIDENT RATES: STILL A MEANINGFUL KPI?



CAT ACCIDENTS 2012 VS 2011 (AT 31/10/2012)

	31 Oct 2012	31 Oct 2011
TOTAL ACCIDENTS	64	82
ACCIDENTS WITH IATA MEMBERS	16	29
WESTERN-BUILT JET HULL LOSSES	5	11
TOTAL FATAL ACCIDENTS	10	22



**ACCIDENT RATES
ARE NOT APPROPRIATE KPI
FOR CAT OPERATORS**

SAFETY KPI – CAT OPERATOR EXPERIENCE



- Alitalia CAI Safety department took advantage of an heritage of more than two decades of safety performance monitoring of Alitalia LAI
- Safety KPIs developed looking at **accident precursors**, international standards and Industry best practices
- KPIs chosen to monitor safety performance in all operations area (FLT, GND, MAINT, TRAINING)
- At moment about 50 KPIs monitored including events from FDM programme
- Quarterly report to Safety Board

EXAMPLES OF SAFETY KPI FOR CAT OPS



GROUND DAMAGE	An event where damage results in an unairworthy condition from ground equipment, air stairs or a vehicle
ENGINE FAIL	An event involving engine failure (contained or uncontained, mechanical or non-mechanical) causing a significant thrust loss below 500 ft, or on a twin in any flight phase.
GPWS/TAWS	Any valid GPWS/EGPWS/TAWS system warnings or commands event, excluding Glideslope warnings. Multiple warnings in the same phase of flight count as a single event.
RUNWAY INCURSION	Runway incursions involving aircraft, vehicle or equipment, person and animal with loss of separation, or runway/taxiway confusion at take off/landing, or airport confusion . Include both active or passive involvement
OPERATIONAL FATIGUE	A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness and/or physical activity that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety related duties
HIGH SPEED RTO	A Rejected Takeoff manoeuvre initiated at speed above 100 kt
TOT MOR EVENT RATE	Number of Events to be reported iaw Directive 2003/42/EC

SAFETY KPI – GOLDEN RULES

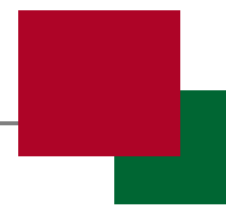


- RATES INSTEAD OF EVENT QUANTITIES
- PRECISELY DEFINED AND “GROUNDED” TAXONOMY (avoid to adjust / change too often)
- REFER TO INTERNATIONAL / NATIONAL STANDARDS
- “ARMONIZE” KPI REPORTING WITH INTENDED AUDIENCE (e.g. Safety Board vs Safety Action Group)
- PREFER DATA FROM AUTOMATED RECORDING, BUT DON'T FORGET DATA VALIDATION!
- LOOK AT NUMBERS.....BUT DON'T FORGET REAL WORLD!

CONCLUSIONS



- SAFETY PERFORMANCE MONITORING IS A CRUCIAL PROCESS OF SMS
- IT'S TIME TO DEVELOP AND AGREE COMMON KPIs (SERVICE PROVIDERS AND AUTHORITIES)
- IMPROVE SAFETY ANALYSIS REPORTS: GENERAL LACK OF INFORMATION



Fly Safe 24/7