

Delivering SMS Training in a MRO Organization

22/May/2015

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TAP Maintenance & Engineering

SM-ICG Industry Day



CARE² AIRFRAME

CARE² ENGINES

CARE² COMPONENTS

CARE² ENGINEERING

TAP MAINTENANCE
& ENGINEERING

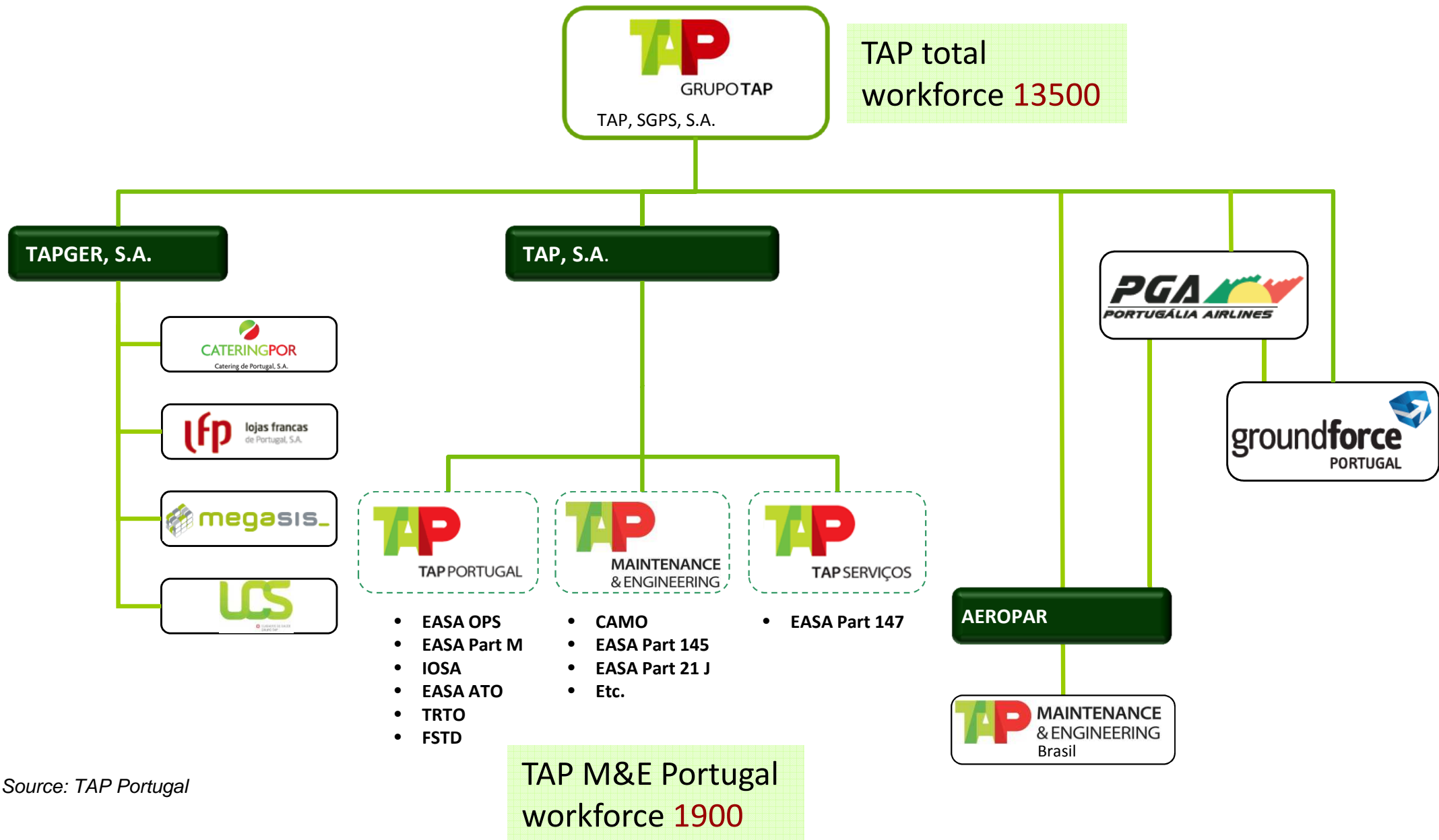
1. Overview
2. Safety Promotion
3. Safety Training
4. Risk Challenger 2014



1. Overview

TAP MAINTENANCE
& ENGINEERING





Source: TAP Portugal

The 4 Pillars of SMS

+ Safety Culture

**Safety Policy
and Objectives**

**Safety
Promotion**

**Safety Risk
Management**

**Safety
Assurance**

The 18 Essential Elements of SMS

Adapted from ICAO Annex 19

SAFETY POLICY AND OBJECTIVES

Management Commitment and
Responsibility

Safety Accountabilities

Appointment of key safety personnel

Organisation

Procedures and Documentation

Emergency Response Planning

SAFETY PROMOTION

Training

Education

Communication

Safety Culture

SOURCES FOR HAZARD IDENTIFICATION

System and Task
Analysis

Process Analysis

Changes

Voluntary Reports

MOR

Operational Data

Audit Findings

Etc.

SAFETY ASSURANCE

Continuous Improvement

Management of Change

Safety Audit

Safety Oversight

Safety Performance Monitoring and
Measurement

SAFETY RISK MANAGEMENT

Risk Mitigation

Risk Assessment

Hazard Identification

Source: TAP Maintenance & Engineering

2. Safety Promotion

TAP MAINTENANCE
& ENGINEERING

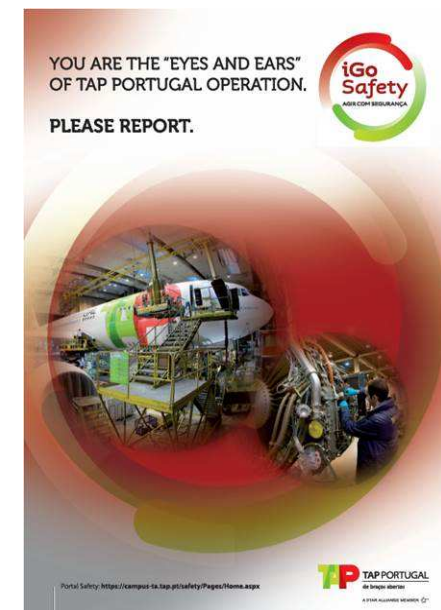


- Campaign + Logo “iGo Safety”
 - Created Feb/2011
 - Evolves around a strong image
 - Identifies TAP M&E SMS
- Stickers “iGo Safety”
 - **5000** stickers
 - **4500** distributed
- Pins “iGo Safety”
 - **1000** pins
 - **400** distributed



Safety Communication

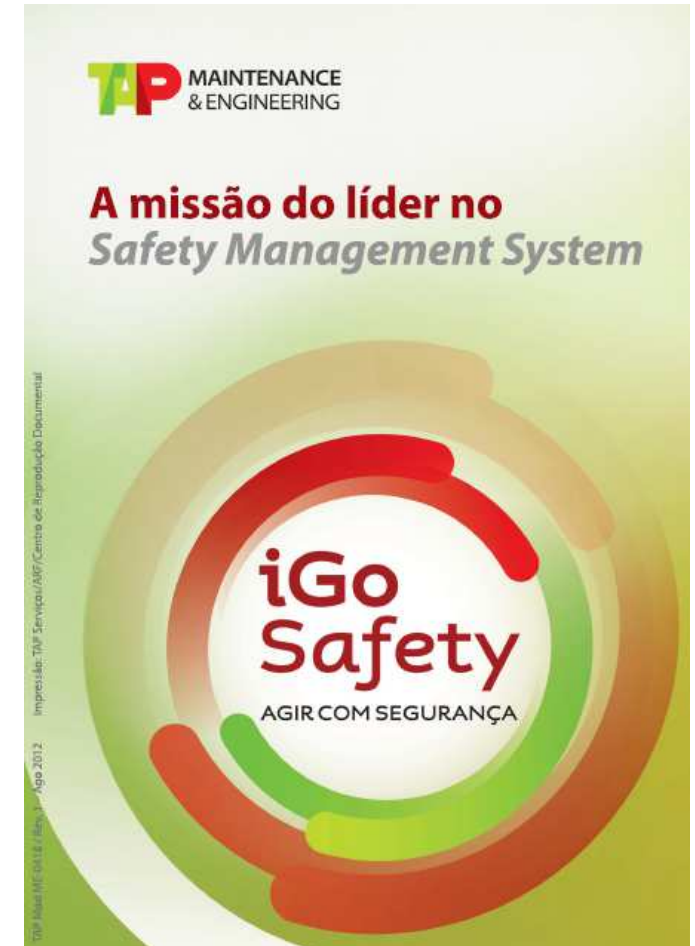
- Poster campaigns
 - Safety education
 - Risk awareness
 - Voluntary report
 - Just culture



- Booklet
 - “The Leader’s Mission in the SMS”
 - Jul/2012
 - **300** printed
 - Sent to all leaders
 - With letter from Accountable Executive
 - Also distributed during training



Based on documents from



- Leaflet
 - “10 Things I Should Know About SMS”
 - Jul/2014
 - **3000** printed
 - Sent to all staff
 - Also distributed during training



Based on documents from



Safety Information

■ “Safety is our mission” e-mail



A Segurança é a nossa missão



- Maintenance Safety Bulletin (MSB)
 - Sent to TAP M&E World
 - New edition every month
 - Based on “just and positive safety culture”
 - No specific references to people
 - Stored in TAP M&E Safety Library



Safety Information

- TAP News
 - Page “iGo Safety”
 - Dedicated to TAP M&E SMS
 - New SMS article every month
 - First article Feb/2011



Safety Dissemination



- TAP TV
 - Short news clips about TAP M&E SMS
- Media Library – “Mediateca”
- “iGo Safety” Stations
 - Placard
 - Leaflet holder
 - Suggestion box
 - Information in both ways
 - Report collection box
 - Safety dissemination spot

Mediateca



3. Safety Training



Safety Training Objectives



- Objectives for safety training:



Objective 1

To train 1000 employees by end of 2012 (of a total 1945)

1085 > 1000: Objective 1 was attained and exceeded



Objective 2

To train all ME employees (1922) by Dec 2014

1750 < 1922: Objective 2 has not been attained yet

Retirement, constant / significant labour turnaround and shortage of manpower make Objective 2 a challenging target

External Safety Training

- Specific (**train the trainer**)
 - EASA / JAA-TO (Cologne, Hoofddorp)
 - Baines Simmons (London, UK)
 - Mitre Aviation Institute (Mc Lean, VA, USA)



- TAP Corporate (classroom and e-learning)
 - EASA Air Operations (Operator SMS)
 - ERP - Emergency Response
 - Accident and Incident Investigation



STAR ALLIANCE™



A STAR ALLIANCE MEMBER

- Complementary (**train the trainer**)
 - **ISO 31000** - Risk Management
 - **ISO 31010** - Risk Assessment Techniques
 - **ISO 22301** - Societal Security Business Continuity Mgmt. Systems
 - **Risk Management** Practice
- Conferences and Seminars
 - EASA, FAA, FOCA, INAC, etc.
 - ESSI/ECAST, SM-ICG, Skybrary
 - Baines Simmons
 - Flight Safety Foundation
 - Flightglobal



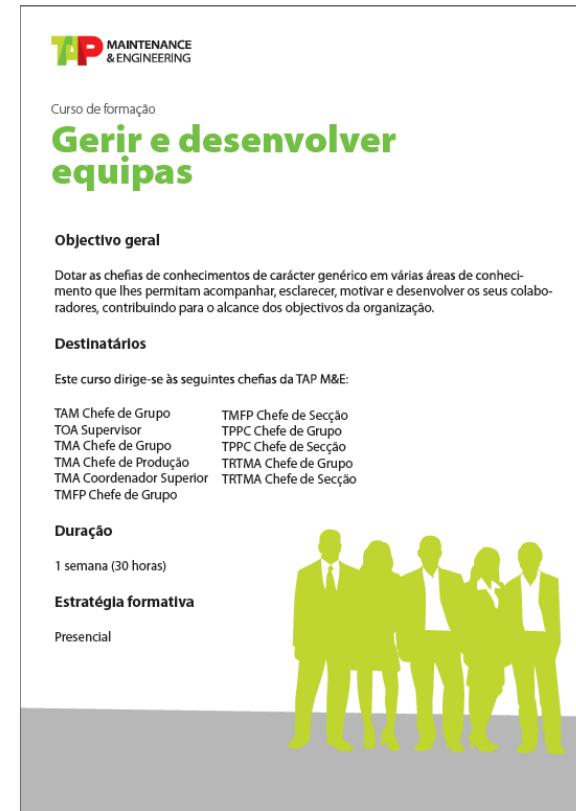
THIRD EUROPEAN SAFETY MANAGEMENT SYMPOSIUM
15 - 16 MAY 2012 • HEATHROW • LONDON • UK



- **Mod. 1:** Let's talk about Safety!
 - For newcomers, classroom, 2 hrs, initial indoctrination
- **Mod. 2:** Act Safely
 - Mandatory to all staff, classroom, 4 hrs, basic SMS knowledge
- **Mod. 3:** Safety in Action
 - Specific training, function oriented, variable duration (4 to 12 hrs)
 - 3.1. Risk Management
 - 3.2. Hazard Identification
 - 3.3. Emergency Response
 - 3.4. Management of Change
- **Recurrent:** SMS + Human Factors
 - E-learning platform, average 2 hrs, online feedback

Safety Training for Team Leaders

- Managing and Team Building 1
 - 30 hours long
 - 3 hours block on QMS and SMS
 - Strong focus on Just Culture
- Managing and Team Building 2
 - 18 hours long
 - 2 hours block on Risk Management
 - Integrated approach to risk scenarios
 - Focus on reporting and investigation



TAP MAINTENANCE & ENGINEERING

Curso de formação

Gerir e desenvolver equipas

Objectivo geral

Dotar as chefias de conhecimentos de carácter genérico em várias áreas de conhecimento que lhes permitam acompanhar, esclarecer, motivar e desenvolver os seus colaboradores, contribuindo para o alcance dos objectivos da organização.

Destinatários

Este curso dirige-se às seguintes chefias da TAP M&E:


TAM Chefe de Grupo	TMFP Chefe de Secção
TOA Supervisor	TPPC Chefe de Grupo
TMA Chefe de Grupo	TPPC Chefe de Secção
TMA Chefe de Produção	TRTMA Chefe de Grupo
TMA Coordenador Superior	TRTMA Chefe de Secção
TMFP Chefe de Grupo	

Duração

1 semana (30 horas)

Estratégia formativa

Presencial




Destinatários

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TMA Coordenador Superior	TRTMA Chefe de Secção

Duração

3 dias (18 horas)

Estratégia formativa

Presencial



Other Safety Training Initiatives

- 1st SMS Seminar (Apr/2013)
- Risk Challenger 2014 (Feb/2014)
- Aircraft Incident Investigation Seminar (Feb/2015)



4. Risk Challenger 2014



Risk Challenger 2014: Objectives



1. Promote:

- SMS
- Risk Management System

2. Comply:

- IOSA (MNT)
- EASA Air Operations
- EN 9110:2012
- TAP M&E Customer requirements

3. Identify Hazards:

- Brainstorming + HAZID
- Managers and Operational Staff

4. Update Risk Register

Framework

- Context:
 - CAMO
 - EASA Part M Subpart G**
 - Continuing Airworthiness
 - AMO
 - EASA Part 145**
 - Maintenance

Note: (DOA) Part 21 Subpart J and
(MTO) Part 147, next edition



Types of Risks Considered

Supply Chain Risks

Strategic Risks

Reputation Risks

Environmental Risks

Financial Risks

Personal Risks

Operational Risks

Regulatory Risks

Product and Market Risks

Human Resource Management Risks

Facilities and Equipment Risks

Risks of Doing Nothing

Program

Time	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	<ul style="list-style-type: none"> • Event Logistics • Initial Setup 	<ul style="list-style-type: none"> • HAZID Methodology • Case studies 	<u>Group 2</u> <ul style="list-style-type: none"> • Brainstorming • HAZID • Prioritization 	<u>Group 2</u> <ul style="list-style-type: none"> • Analysis of Big Five • Hazard Register 	Team Work Presentation
Afternoon	<ul style="list-style-type: none"> • Introduction • Risk Management Workshop 	<u>Group 1</u> <ul style="list-style-type: none"> • Brainstorming • HAZID • Prioritization 	<u>Group 1</u> <ul style="list-style-type: none"> • Analysis of Big Five • Hazard Register 	HAZID for Top Managers Validation of Results	Team Work Presentation

General Training: Risk Management

Specific Training: Risk Challenger

Practical Sessions

Team Work Final Presentations

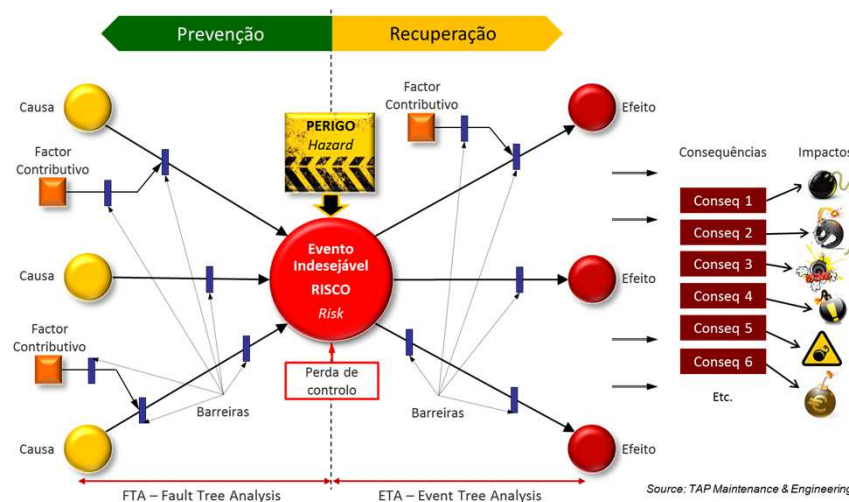
Risk Management Workshop

- Participation:
 - **146** participants
 - All skills and functions
 - **3** hours
- Contents:
 - Risk management
 - Incident and accident analysis
 - Case studies
- Results:
 - Knowledge consolidation
 - Risk oriented mindset





- Interactive method consisting of:
 - Multi skill team **brainstorming**
 - **Scenario** mapping in defined contexts
 - Inclusion of *what-if* **change** scenarios
 - Prioritization of **top risks** to the organization
 - Simplified **Bow Tie** diagrammatic analysis
 - Evaluation of existing **controls** and effectiveness
 - Identification of **mitigation** strategies



Risk Challenger Sessions

- Group dynamics:
 - **11** teams + **1** (Safety Office M&E)
 - HAZID + hazard listing
 - Prioritization of risks
 - Analysis of each team's **Big Five**

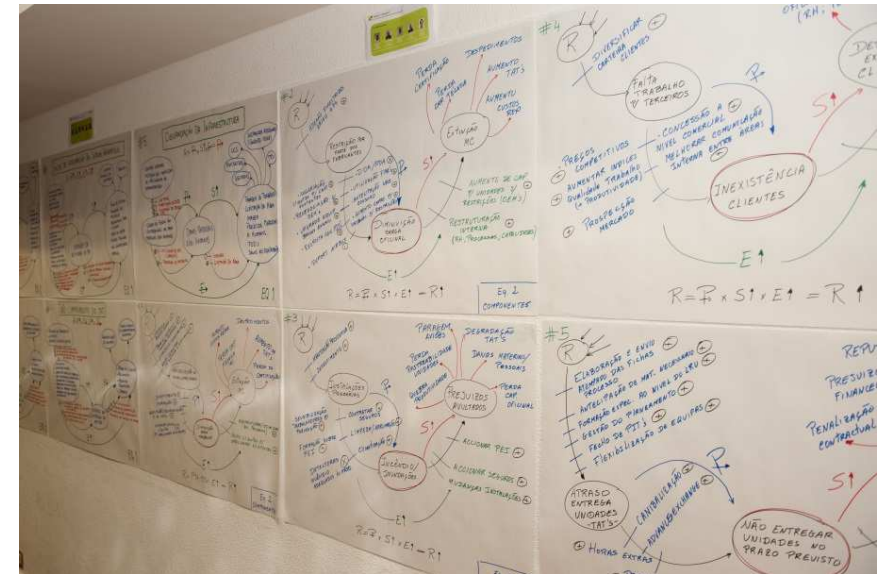


Team Work Presentations

- Participation:
 - Public open session
 - Teams, leaders, top managers
 - **6** hours



- **57** Participants
 - 5 maintenance technicians
 - 7 administrative staff
 - 2 planners
 - 29 graduated staff
 - 12 managers
 - 2 directors
- **11** teams + **1** (Safety Office M&E)
- **220** hazards identified
- **5** risks **Big Five** per team

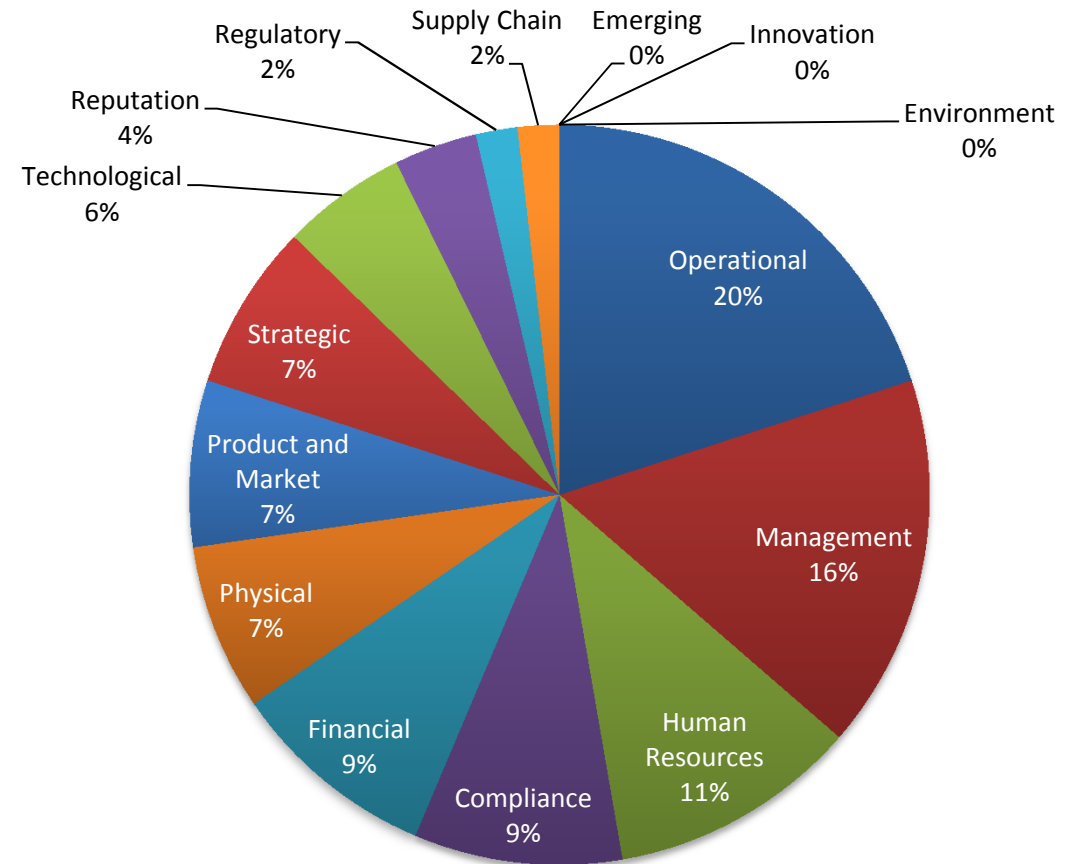


RISK CHALLENGER - Jornadas do Risco da TAP M&E 2014

Big Five por Equipa									
Ref.	Equipa Team	ID Perigo Hazard ID	Categoria Category	Designação do Perigo Hazard Designation	Descrição do Perigo Hazard Description	Hierarquia do Ranking	Score Equipas	Score Direcção	Top 10 das 220
1	Métodos	1.1	Product and Market	Falta de testes	Redução de experiência, perda de proficiência do trabalho	1º	5	19	24
2	Métodos	1.2	Operational	Falta de reação com origem em ações de MB	Não existência de SDR em caso de falha	2º	4	0	4
3	Métodos	1.3	Technological	Falta de integração de sistemas informáticos	Informação desconexa, duplicação de trabalhos	3º	3	4	7
4	Métodos	1.4	Management	Não cumprimento do TAT	Não cumprimento do TAT contratualmente estabelecido	4º	2	1	3
5	Métodos	1.5	Physical	Falta de S&D	Queda de peças de teste ou partes de peças em perigos ou material de testes	5º	1	0	1
6	Componentes	2.4	Strategic	Não aquisição de novas capacidades	Desenvolvimento tecnológico no sentido de desenvolvimento de novas capacidades técnicas	1º	5	11	16
7	Componentes	2.2	Product and Market	Restrições por parte dos fabricantes	Disponibilidade na obtenção de peças e materiais, efeitos característicos de peças	2º	4	4	8
8	Componentes	2.1	Physical	Instalações precárias	Ativações de tipo SDR a 42º ou mais de inclinação (B)	3º	3	2	5
9	Componentes	2.5	Product and Market	Falta de trabalho para terceiros	Falta de cartões diversificados de clientes	4º	2	0	2
10	Componentes	2.3	Management	Processo na entrega de unidades	Não cumprimento do TAT contratualmente estabelecido	5º	1	0	1
11	Engenharia	3.4	Management	Processo TAT (planejamento)	Integração dos planos, não existência do plano, duplicação, utilização do plano em operações (perigos desconhecidos)	1º	5	0	5
12	Engenharia	3.3	Compliance	Gratidão de configuração de avião	Lista de S&D está de acordo com a configuração do avião (lista de informação ou informação desconhecida)	2º	4	7	11
13	Engenharia	3.5	Operational	Plano-out	Falta de documentação que impossibilite a entrega de avião	3º	3	0	3
14	Engenharia	3.1	Operational	FD - artigos extrínsecos	Colisão de F&D com a aeronave	4º	2	0	2
15	Engenharia	3.2	Compliance	Documentação técnica	Ativação de documentação técnica desatualizada Disponibilidade de documentação técnica desatualizada Disponibilidade de documentação técnica desatualizada Disponibilidade de documentação técnica desatualizada	5º	1	0	1
16	Marketing e Estratégias	4.2	Strategic	CRM M&E e Componentes	Atualização e domínio do CRM no mercado de M&E	1º	5	12	17
17	Marketing e Estratégias	4.3	Product and Market	Processamento estratégico	Atualização de definição do posicionamento da TAP M&E face às novas condições internas e externas	2º	4	23	27
18	Marketing e Estratégias	4.4	Strategic	Grupos concorrentes (em grupos similares)	Risco de alienação dos clientes face aos grupos concorrentes	3º	3	0	3
19	Marketing e Estratégias	4.5	Management	Investimentos	Falta de capacidade de investimento	4º	2	13	15
20	Marketing e Estratégias	4.6	Human Resources	Capital humano especializado	Falta de capital humano especializado	5º	1	14	15
21	Finanças e Contabilidade	5.6	Financial	Incumprimento de clientes	Clientes não pagam	1º	5	4	9

■ 55 Risks Big Five

- Operational: 11
- Management: 9
- Human Resources: 6
- Compliance: 5
- Financial: 5
- Physical: 4
- Product and Market: 4
- Strategic: 4
- Etc.



Costs



Thank you



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SMS Roadmap at TAP M&E

