Economic impact on stakeholders

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Scope

- Who is affected by and outage and how…

Questions to the attendees

- Who is affected ?
- What is the impact of the outage on those affected:
  - Short-term?
  - Long-term?
- Which economic values to consider?

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Impacted stakeholders

- Airspace users
- ANSPs
- Airports and local economy
- Passengers

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Impact of outages from the airspace users' perspective

- delays
- re-routings
- diversions
- flight cancellations

Users based in the AoR of the failing unit most exposed

Impact of outages from the ANSPs' perspective

ANSPs with long lasting outage exposed to severe financial trouble

- Dramatic increase in Unit rates
  - fluctuate (upwards)
  - Airspace users flying around make the situation even worse
- Public criticism and to peers' judgment.

Impact of outages from the airports' and local society's perspective

Airports located under the AoR of a failing unit would be severely hit.

- Loss of landing & Passenger charges
- Indirect societal losses (i.e loss of jobs, impact on tourism and air freight) in the catchment area.
- Knock-on effects on other airports: negative on the origin & destination airports further to cancellations, positive on nearby airports further to diversions.

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Impact of outages from the passengers' perspective

Passengers would be potentially exposed to:

- Delays before departure
- Time consuming or more expensive modes of transport, or
- Obligation to go to distant airports or
- Travel cancellations when no alternative is available

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Illustration: Economic value of aviation in Europe

Jobs and contributions to GDP in Europe

	Employment	GDP (US$)
• Airports	156.000	17 billion
• **Other on-site airport job**	310.000	14 billion
• Airlines	750.000	53 billion
• Aerospace	315.000	34 billion
Total direct	1.530.000	118 billion
Indirect	1.835.000	147 billion
Induced	840.000	66 billion
Total	4.200.000	331 billion
Impact on other sectors (e.g. Tourism)	3.600.000	900 billion

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Individual values: airspace users

Extreme case: total loss of business for some based carriers

- Impact of the outage with advance notice

Value of a minute of delay:	22€
Cost of cancellation:	8000€
Cost of diversion to surrounding airports:	4000€
Value of a flight (gain from an extra flight):	830€
Cost of extra kilometers:	4.94€ a km

- Impact of the outage without advance notice

Cost of cancellation:	15000€
Cost of diversion to surrounding airports:	8000€

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Individual values: ANSPs

Impact of the outage on the ANSPs

- Extreme case the total loss of business for the local ANSP
- Average lost revenue at ECAC level:
  - ATM/CNS revenue per controlled flight hour, en-route: € 395
  - ATM/CNS revenue per controlled movement, terminal: € 103

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Individual values: other stakeholders

Impact of the outage on the airports & surrounding economy

- Extreme case: the total loss of business for the concerned airports
- Average lost revenue:
- consider turnover of the airports in the AoR of the ATM unit
- Major impact on the local economy : 15% of local airports turnover

Impact of the outage on passengers

- Passengers value of unforeseen delays, passengers blocked at the airport (According to SESAR): 39€ per passenger and hour (min34€; max44€).

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Illustration:
Cost of ATFM delays
including reactionary - airspace users

year	Minutes (million)	Cost (million €)
1997	20.9	1.150
1998	27.4	1.500
1999	43.3	2.400
2000	31.8	1.800
2001	27.6	1.550
2002	18.0	1.000
2003	14.8	800
2004	14.9	800
2005	17.6	1000
2006	18.4	1050
2007	21.5	1300

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