AVIALLIANCE

4th TAM Symposium "Science2Business" ATM Performance: TAM As an Enabler

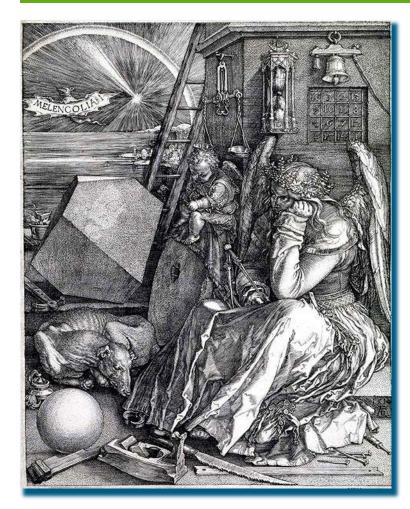
Thomas Brehmer, Director Technology 15. October 2013



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If we can know, we should? "Knowledge is a curse"



- •The amount of information generated by aviation stakeholders is immense in relation to that actually used
- •Knowing more implies a responsibility to act accordingly
- •Far too much data is kept hidden
- Aviation stakeholders must collaborate also to determine what data really must remain protected and how to incrementally use the rest

TAM offers an ideal platform for this discussion

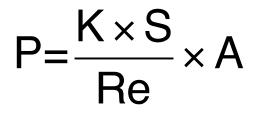
Albrecht Dürer Melencolia, ca. 1514

Rinascimento: the Renaissance from the 14th to 17th centuries Propelled by the existence of paper and movable type Johannes Gutenberg: 1395-1468

Unit performance/system performance The dangers of the pursuit of narrow performance objectives

Too often the performance paradigm in use relies heavily on narrowly focused interventions that address only a narrow aspect of performance

Reporting broad performance measures to a trusted, central entity that analyses and synthesises results is step in the right direction; qualified feedback to data providers is additionally helpful



The performance equation

from

Unifying Theory of Human Performance

by Douglas Peters

Ρ	Performance	
Κ	Knowledge:	e.g. data collection by the PRB
		Analysis → Information → Feedback to stakeholder
S	Skill	Practitioners apply fed-back information
		Results of application show up in new data
Re	Resistance	Privacy concerns, Inability or simply unwillingness
		to make the effort

A Attitude or desire to perform

Barriers to sharing and transparency of data Aviation actors should be sharing more—arguments for secrecy need to be re-examined

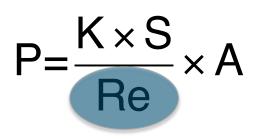
Reasons for resistance to share data

Legitimate privacy concerns Protection of competitive position

Lack of understanding of data relevance, inability of entity to collect relevant data, or relatedly, technical inability to share; or a combination of the above

Lack of resources to deal with extensive operational information

Inertia



Resistance in the environment



Just because we can improve performance, should we? Trade-offs

Some features

Objective function

Safety Mobility Environmental protection Trade/economics Public nuisance

Human interaction

Local/regional/national/global impact

Location specific Based on rational measurement Flexible Transparent

A ground coordinator would be ideally positioned to formulate an objective function

Aspects of performance

From the performance regulation CIR (EU) No 390/2013:

- With the new performance regulation the Commission has stipulated that each aviation service provider must report its performance in detail and regularly to the Performance Review Body (PRB)
- The regulation applies to the coming reference period, RP2, beginning in 2015
- The scope of information collection is similar to that of an A-CDM information sharing system, in other words, it is very comprehensive
- If the compiled information is faithfully analysed and reported, there should be no question open with regard to aviation performance
- However, the amount of information is enormous and neither the necessary analytical tools nor an appropriate system of human-machine interfaces have yet been developed
- To deal with this, a collaboration of aviation actors across Europe need to swarm over the task
- For this to happen, the value of information needs to become apparent

The value of information

- As with A-CDM, increasing best use of information would be its own reward.
- However, as with A-CDM, a deeper and more widespread information initiative requires industry leaders and probably, in many cases, financial support.
- Financial support is justifiable because the initiators of information initiatives as suggested, will bear the costs, but will not enjoy the entire benefit. The largest benefit will likely be external, that is, it will accrue to other stakeholders and society in general.
- A major challenge is to determine the value of information at every level of aviation activity

The greatest threat/the most attractive opportunity

The greatest **threat** is action or inaction through ignorance

The most attractive **opportunity** is the achievement of true collaboration in general and with it, the determination of what we, as travellers, truly need in a constantly changing environment

The spread of A-CDM has introduced the benefit of information sharing—TAM will extend its scope