

**ARINC** YOU WON'T BELIEVE WHAT WE CAN DO.®



# Baltimore ASQ

# Welcome to ARINC !!

# Making Measurement (More) Meaningful

Presented by:  
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# Agenda

- A little on ARINC
- Why Measure?
- Our customers
- Measurements we make for them
- Taking Measurement further
- Value Measurement

# ARINC



ARINC serves the airline, defense, and commercial industry with numerous world-wide communications services, using VHF, HF, and Satellite, along with various broadband and network capabilities.

The Quality Analysis Section of QMO at ARINC monitors and reports on the performance and availability of all of these services.

# Why Measure? (The Basics)

- Socrates once said, “That for which you cannot measure, you cannot show quality”.
- An ASQ member said, “We don’t measure to make your product, we measure to make your product... better”

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- Tells you and the customer how good the product/service is; in other words, “Quality”
- It helps sell your product to....

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- External customers
- Internal customers

# Measurement for External Customers

- What are their requirements?

Design measures around their requirements.

- What is the data needed?
- How do you get the data for the measures?
- Is the data reliable?
- Critical requirements: Are there penalties if you fail to meet the requirements?

# Measurement for Internal Customers

- Who are these customers? Executives Your boss  
Project Managers
- How do their requirements differ from external customers?
  - Do you have Corporate Goals?
  - Do you have Department Goals?
  - What are your personal goals?

# Taking Measurement Further

- What can you do to make these measures more meaningful to the customer?

## Data Trends – Verbally summarize for the customer

Americas TRAFFIC: 24,800,000 messages for the month of September.

ACARS Average daily traffic was recorded at 800,000 messages per day:  
(based on a 31 day billing cycle)



8.21% decrease over August 2005

5.79% increase over September 2004

Four of the four performance measurements met the goal for the month. Four of the four performance measurements met the goal YTD.

Four of the four availability measurements were met for the month. Four of the four availability measurements were met for the YTD.

# Taking Measurement Further

- What can you do to make these measures more meaningful to the customer?

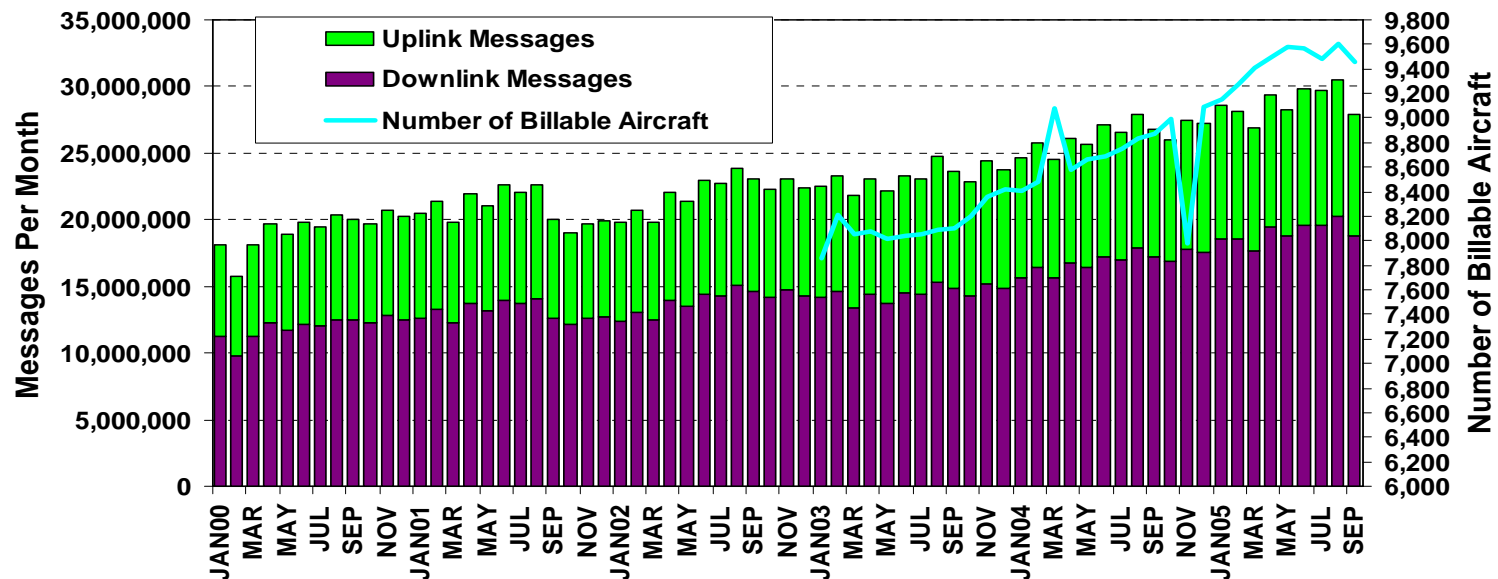
Data Trends – Table summarizes for the customer

	2004	2005	2005	2005	MONTHLY	MONTHLY
<b>PERFORMANCE MEASUREMENTS</b>	PERF	GOAL	PERF	GOAL	PERF	GOAL
				MET		MET
Uplink Message Delivery Success Rate (%) – All Deliverable Messages	99.950	NA	99.960	Y	99.990	Y
- POA Uplink Deliverable Messages	99.953	NA	99.950	Y	99.470	Y
- AOA Uplink Deliverable Messages	99.990	NA	99.989	Y	99.875	Y

# Taking Measurement Further

- What can you do to make these measures more meaningful to the customer?

## Data Trends – Show the customer



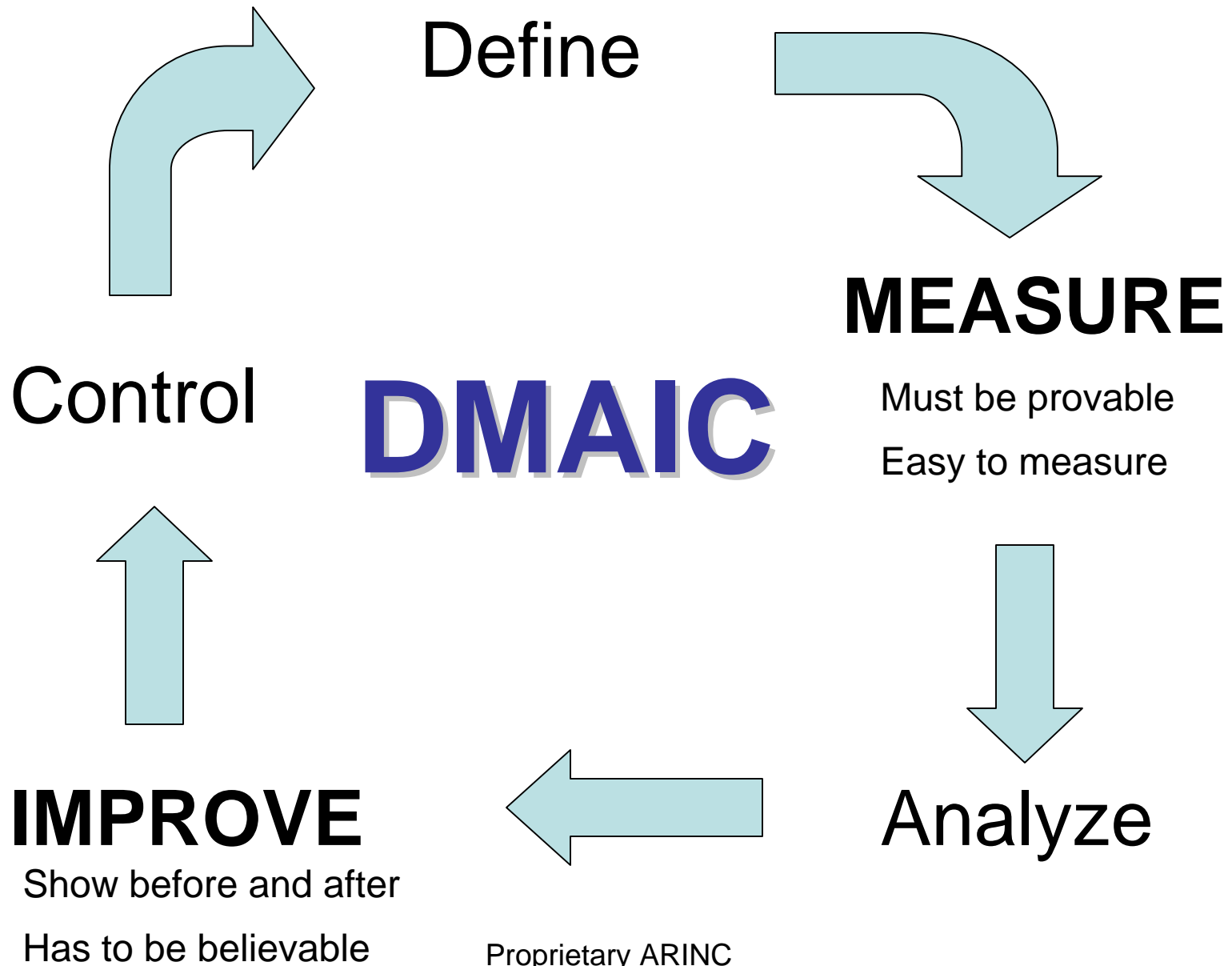
# Misleading Measures

- Percentage increases can distort
  - If an investment gains 44% while the S&P gains 30%, you beat the market by 14%.
  - But you also can say you beat the market by 44%, as  $14/30 = 44\%$ .
- Round off differences
  - In the US, there may be 3 g of fiber in a cereal box, but in Canada there is only 2.7 g in the same box, a difference of 10%.



Proprietary ARINC

# Value Measurement



## Calculating Value (Savings)

Improvements created in 2005							
No.	Name	Origin	Date	Problem	Root Cause	Improvement	Est'd Hrs saved (mth)
1	Automation of Quarterly report	Name	3/5/2005	No automatic process	Too many different processes	Created Master Excel SS for all reports, standardized format of report. Reduced time to do report from 3/4 day to 1/3 day. Savings estimate based on report volume of 20 -22, thus going from 15-16 days (3/4 * 20 to 22) to 7 (1/3 * 20 to 22) to generate all reports. This saves about 9 days per quarter or about 3 per month.	24

No.	Saved Hours/mth	Burdened labor	Savings/mth	Yearly Savings	Original cost	Yrly maint	Net cost/yr	PV of Cost	PV of Savings	NPV less all cost	Return over 5 years
1	24	75	\$ 1,800	\$ 21,600	\$ 14,500	\$ 600	\$ 600	\$ 2,783	\$ 117,007	\$ 99,724	7:1

2	Automation of Station Reporting	Name	4/11/2005	Analyst could not monitor daily outages adequately	No automation program existed						16
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3	Purchase of new servers to allow more information to be stored, manipulated, and generated	DBA	6/27/2005	Servers at capacity	Amount of data being stored growing on a daily basis						34
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Estimated Cost Savings Due to Improvements												
No.	Saved Hours/mth	Burdened labor	Savings/mth	Yearly Savings	Original cost	Yrly maint	Net cost/yr	PV of Cost	PV of Savings	NPV less all cost	Return over 5 years	Break even year
1	24	75	\$ 1,800	\$ 21,600	\$ 14,500	\$ 600	\$ 600	\$ 2,783	\$ 117,007	\$ 99,724	7:1	1
2	16	90	\$ 1,440	\$ 17,280	\$ 14,700	\$ 240	\$ 240	\$ 1,113	\$ 93,606	\$ 77,792	6:1	1
3*	34	85	\$ 2,890	\$ 34,680	\$ 25,500	\$ 600	\$ 600	\$ 2,783	\$ 187,861	\$ 159,578	8:1	1
<b>Totals</b>	<b>74</b>		\$ 6,130	\$ 73,560	\$ 54,700	\$ 1,440	\$ 1,440	\$ 6,679	\$ 398,474	\$ 337,095	<b>7:1</b>	

<b>Average annual savings**:</b>	<b>\$ 67,419</b>
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Measurements are Meaningful !!

