

Engine Production Quality Monitoring Application

Monitor the aircraft engine production on multiple production facilities

THE CONTEXT

Nowadays, in a difficult economical context and a hard competitive market, companies must preserve margins by reducing production and maintenance costs and continuing to produce quality products which satisfy their customers. In this context, production quality control is a key factor of success. It consists of measuring the various characteristics of manufactured product in order to:

- Know precisely each product
- Evaluate continuously the quality product
- Detect eventual drifts to ensure constant quality
- Detect defaults to avoid customers returns
- Analyze results of manufacturing process improvement



BENEFITS

- Cost reduction
- Defaults database, default prediction
- Data traceability and availability
- Real-time monitoring of production, improve reactivity
- Multi platform: Unix/Windows/Linux

REQUIREMENTS

Companies must constantly monitor the quality level of production and must produce synthesis documents of measurements to present them to their customers.

At times, several configurations of the same product must be tested in order to determinate which has the best performance. When the prototypes, test configurations and performances measurement parameters are numerous, the progress synthesis on a timely basis becomes difficult without an automatic tool. These difficulties become even greater when these surveys are made over several months or years.

Customers Profile

- Quality
- Production
- Maintenance

Industry/Market

- Aeronautics
- Automotive

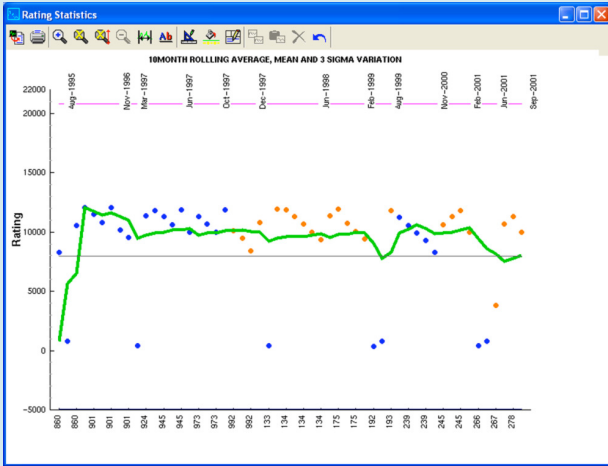
Objectives

- Production Quality Control
- Drift Prediction
- Performance Monitoring
- Deviation Analysis



The DynaWorks database allows the storage of all measurements resulting from tests of prototypes or products as well as description data of these tests. Thanks to display tools and calculation power of DynaWorks, the analysis of these data is immediate. The results can be produced directly as curves or Excel worksheet, Word or PDF report formats. Then all these documents can be stored into the database. To increase the productivity, DynaWorks lets you automate all these tasks. DynaWorks is a product entirely customizable to the specific needs of the various activity domains of industry. This application is actually operational in an aeronautical engine manufacturer. The production and quality managers and the designers have at their disposal a knowledge database of their production over several years. With DynaWorks, they can perform the following operations:

Prediction of final product specifications, performances monitoring of predicted model



DynaWorks allows users to obtain an overview of a parameter evolution which is measured during all or part of a test campaign and to compare it between different models. This 2D-graphic display gives the possibility of evaluating which engine version offers the best performance in a particular phase. For example, for an engine, the minimum of vibration in a phase of a plain acceleration.

Defaults knowledge database, deviation analysis

All the necessary data which are stored in the database let you perform statistical studies, mean calculation, production deviation monitoring. These results can be published in Word or Excel format. For example, it gives for an engine version:

- The mean deviation and mean value of a parameter according to a quality criteria which is fixed during the last six months
- The percentage of failure, limit overlay, etc.

Performance calculation, manufacturing range optimization

It is possible to edit production arrays by product version which federate all the mean results of parameters on a specific time range, for example, a year.

Generating of customer contractual documents

DynaWorks allows the automatic generation of reference documents in PDF format in order to preserve their integrity. These documents can be entirely customized to suit the needs of the company clients. DynaWorks lets the user quickly publish performance reports on a set of contractual parameters. For example, it takes only five minutes to DynaWorks to produce and save hundreds of reports, in Word format. Each report contains up to 200 parameters which are read from the database. The automatic saving of documents into the database allows the perfect traceability of your production.

POWER	FN K	ACTUAL	DIST	H2	RPM	EGT
75 %				100	13535.4	631.566
TOA1 :	11225.3	1.90700	120.50	110	14103.4	740
TOA3 :	0.31046	1.907	110	13960	741.979	
TOA5 :	10610.7	1.9070	130	13535.4	740	
TOA1 :	11225.3	2.5	110	13535.4	646.5	
TOA3 :	0.31046	1.909	115	14103.4	735	
TOA5 :	10610.7	1.9070	100	13960	643	
TOA1 :	11225.3	2.345	99	13535.4	632	
TOA3 :	0.31046	1.759	68	14103.4	710	
TOA5 :	10610.7	1.903	97	13960	750	

OIL = MOBIL_JET2
KBUSE = NO

Based on DynaWorks, this solution is the ideal tool to help companies in their optimization process of production quality control

EUROPE



2, rond-point Pierre Guillaumat - BP 64356
31029 TOULOUSE Cedex 4 - France
Tel: +33 (0) 5 61 28 11 11
www.dynaworks.com
Email: marketing@dynaworks.com

NORTH AMERICA

EADS North America Test & Services
1861 Wiehle Avenue, Suite 310
Reston, VA 20190
United States of America
Tel: 1(703) 264 1080
www.ts.eads-na.com
Email: salesus@dynaworks.com

ASIA

Mestime Information Technology Co. Ltd
Room 202, Huizhong Building; No.1,
Shangdi 7th street, Haidian District, Beijing, P.R.C
100085 Beijing - China
Tel: +86-10-82897169
Mobile: +86-13-801030932
Fax: +86-10-82897207
Email: salesasia@dynaworks.com