

VOC Management for the Ship Building Industry



The ECO Paint Project

WONDERMAR II WORKSHOP Sept 2002

Andrew Hopkinson BSc

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ECO Paint Project (5th Framework)

- Title : Environmentally Friendly and Efficient Coatings for Ships
- Objective
 - To develop guidelines and recommendations covering the best working practices for the industrial coating process, for product quality, H&S and environmental impact

Partners and Work Packages

- Partners: Odense Steel Shipyard
Det Norske Veritas A/S
Safinah Ltd
Forschungszentrum Terramare
Newcastle Primary Trust Care
G.Theodor Freese GmbH
SYNPO Akciova spolecnost
- Work package 2 : Specification and mock up of a coating management system
- Solvent emissions were seen to be a main function of such a coating management system.

Key area of concern for paint applicators, shipyards and other users

- EC Council Directive - March 1999
 - Limitation of emissions of volatile organic compounds (VOC)

EC Solvent Directive

- In Europe, target reductions of VOC emissions from total paint consumption are expected to be 30 - 50% less by the year 2007
- Shipyards / Fabricators must produce
 - Current VOC emission data
 - A management plan to reduce solvent emissions

The Users Problems

- How to collect VOC data to comply with EC Solvent Directive?
- How to provide suitable Environmental Agency reports?
- How to complete the work at minimum cost?

Users currently have no readily available tools to assist them monitor solvent emissions

- Safinah therefore perceived a need in the marine market to :

*Develop a product to monitor
solvent emissions*

- Safinah considered that *a really useful product* would be able to satisfy certain objectives, some primary and some secondary

Primary Objectives of the Product

- Record the quantity of all paint used on site, as it is used and on a continuous basis
- Extract from this data the volume of solvents which will be emitted on site during application
- Store and retrieve such information for reporting
 - Environmental Authorities
 - Internal Management

The Secondary Objectives

- Non-labour intensive
- Easy to use system suitable for shipyard painting departments
- In-expensive in relation to
 - value of paints being applied per year by the user
 - environmental penalty costs of non-compliance

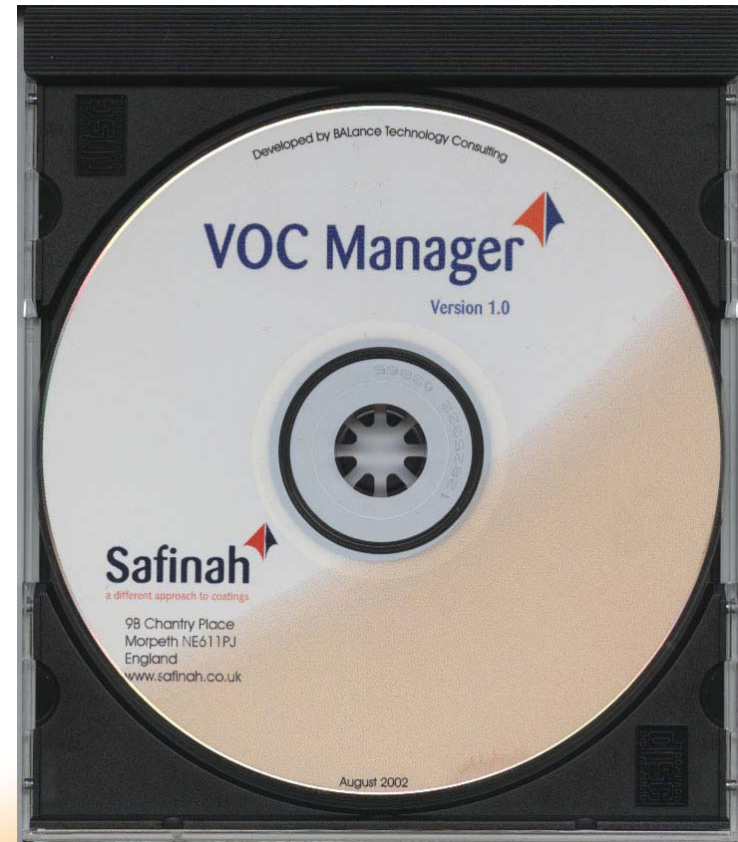
Product Development

- Safinah's belief was that this market need could be met by the means of specialist software
- BALance Technology Consulting were selected to programme the software
- Development time has been > 2 years
- Shipyard field trials in progress
- The name of this new product is

VOC ManagerTM

VOC Manager™

- A uniquely developed marine software product which gathers and stores VOC emission data by product type, project, location or date interval



Methodology

- A simple to use system which uses bar code data capture technology



The Product as **Monitor**

- Will monitor VOC emissions with minimum manual in-put
- Will efficiently produce reports for Environmental Authorities
- Will provide permanent records to compare planned Vs actual consumption

The Product as **Manager**

- Will give *added value* benefits of :
 - Improved management of coatings process and waste reduction
 - Easy VOC assessment of competitive tenders
 - Providing data for the generation of solvent reduction management plans

How it Works

- Yard customisation
- Set-up Project / Job
- Tendering
- Consumption (bar code scanner)
- Report development

Set-up

Maintain Tender Coats

Tender	Id.	Description	Status
	T001	Tender 1	0
Area	batromdc	battery rooms (decks)	

Coat Number	1	Max. Number of Full Coats	1
Coat Type	Full	Max. Number of Stripe Coats	1

Save with Completeness Check

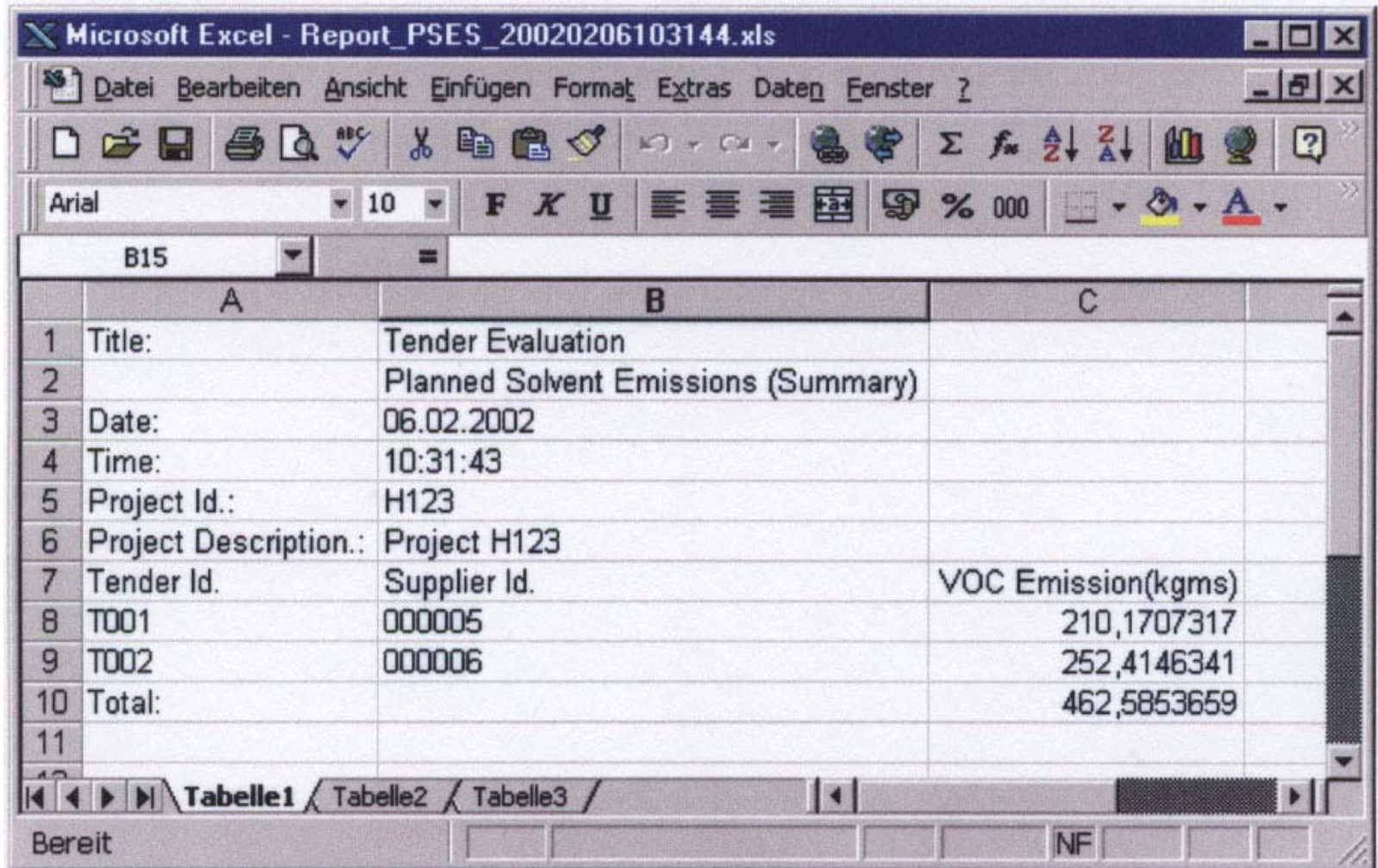
Paint Details | Thinner Details | Cleaner Details

Paint Details | Thinner Details | Cleaner Details

Product Id. / Description		
Manufacturer Id. / Name	000005	International Coatings
Manufacturers Product Id.		
Barcode Type / Barcode		
Paint Type		
HAPS Descriptor / Desc.		
Application Method / Desc.	airlesspray	Airless spray
Dry Film Thickness / Unit		micron
Volume Solids Percentage		
Loss Factor		
Paint Volume / Unit		
Specific Gravity / Unit		kgms/ltr
VOC Content / Unit		gms/ltr
Theoretical Spread Rate		
Practical Spread Rate		

Buttons: Add, Edit, Copy, Delete, Refresh, Cancel, Save, >, <, >>, <<, Renumber, Transfer Data to Product Table, Que

As a Manager



Microsoft Excel - Report_PSES_20020206103144.xls

File Edit View Insert Format Extras Data Window ?

Arial 10 F K U % 000

	A	B	C
1	Title:	Tender Evaluation	
2		Planned Solvent Emissions (Summary)	
3	Date:	06.02.2002	
4	Time:	10:31:43	
5	Project Id.:	H123	
6	Project Description.:	Project H123	
7	Tender Id.	Supplier Id.	VOC Emission(kgms)
8	T001	000005	210,1707317
9	T002	000006	252,4146341
10	Total:		462,5853659
11			

Tabelle1 / Tabelle2 / Tabelle3

Bereit NF

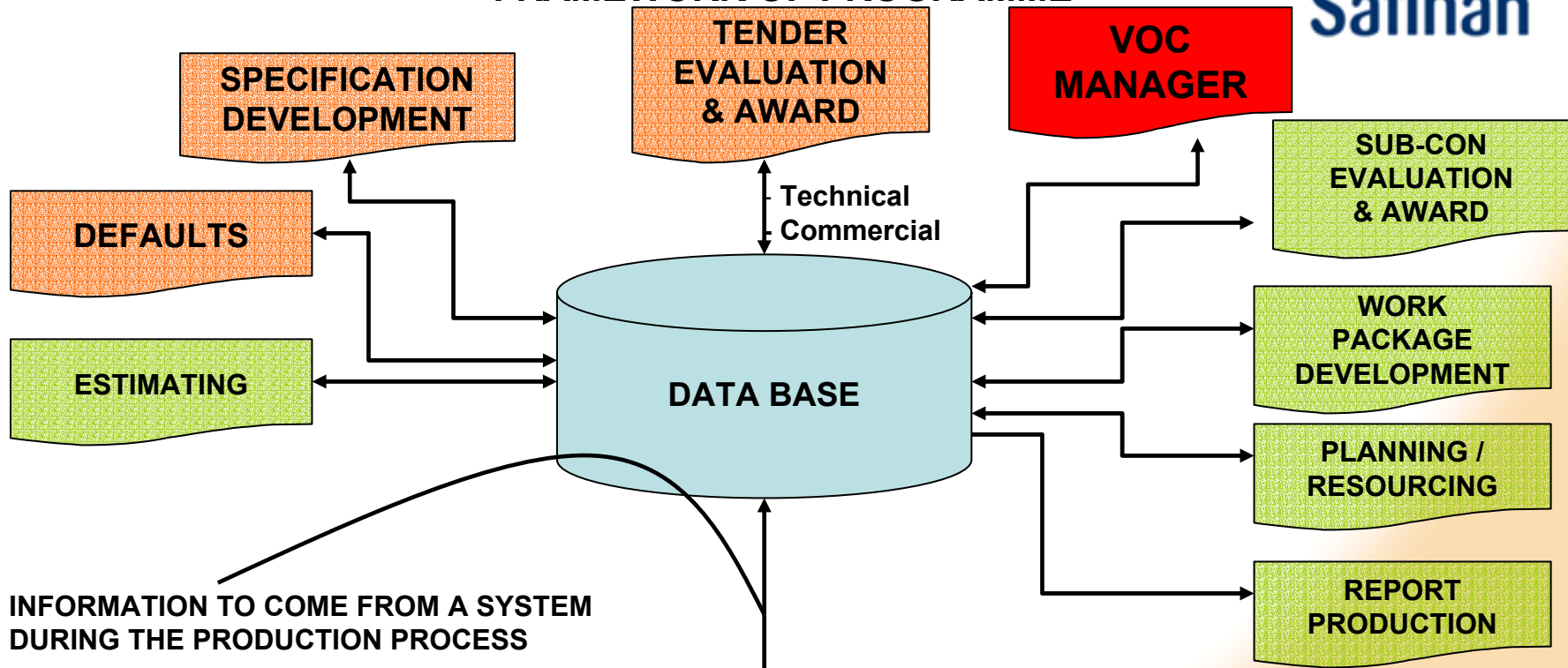
Additional Benefits

- The system will produce data to satisfy the Clean Air Act (USA)
- The system is one function of a wider coating package to manage the total coating process.
- Additional functions for managing the coatings process are in development as part of the ECO Paint Project

ECO Paint Project

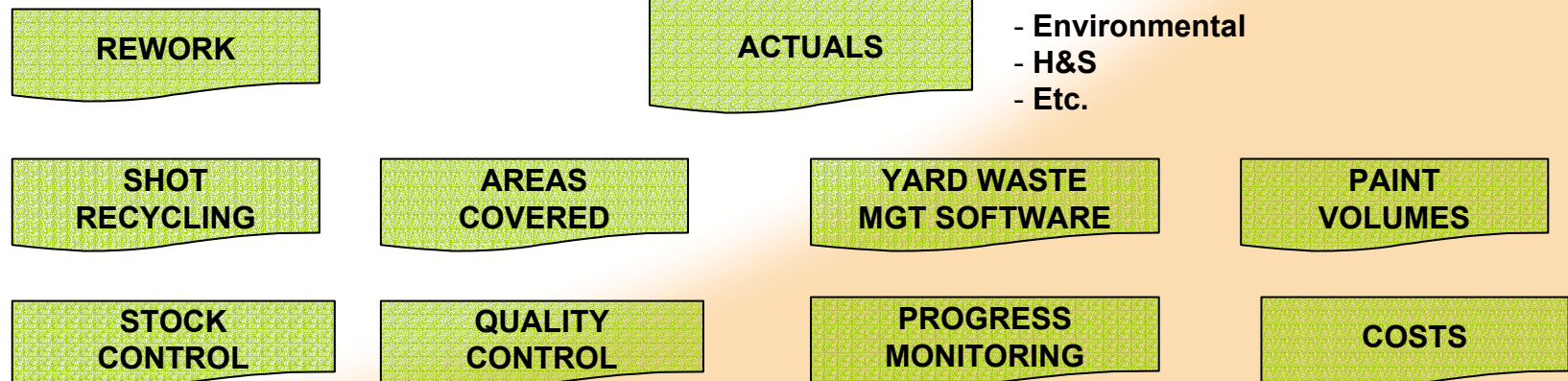
- Work package 2 : Specification and mock up of a coating management system
- Where we are, and where we're going

COATING MANAGER DEVELOPMENT FRAMEWORK OF PROGRAMME



INFORMATION TO COME FROM A SYSTEM DURING THE PRODUCTION PROCESS

- DIVIDED INTO:
- Production
 - Financial
 - Environmental
 - H&S
 - Etc.



VOC Manager™

*Paint monitor and manager for shipbuilders
and applicators*