#### Real-time Manufacturing Scheduling And Production Planning Planning results

	Company	Department	Workcenter	Resourceld	Job Order Name	Task	Order Name	Start	Date	EndDat	te 🖌						
1	NEORIO	JSSHIP	WCELEC	RELEC3	JB10005/1	TE7010		3/7/01 12:00:00 AM		3/19/01 12:0	00:00 AM						
2	NEORIO	JSSHIP	WCELEC	RELEC4	JB10005/1	TE798	1	3/4/01 12:00:00 AM		3/9/01 12:0	00:00 AM						
3	NEORIO	JSSHIP	WCELEC	RELEC3	JB10005/1	TE799	0	2/7/01 1	2:00:00 AM	2/20/01 12:0	00:00 AM	0000					
4	NEORIO	JSSHIP	WCDOCK	RDOCK1	JB10005/1	TF011	0	2/7/01	3:00:00 AM	2/7/01 6:0	00:00 AM						
5	NEORIO	JSSHIP	WCDOCK	RDOCK1	JB10005/1	TF019	0	3/19/01 1	2:00:00 AM	3/19/01 3:0	00:00 AM	0000					
6	NEORIO	JSSHIP	WCFITIN	RFITIN6	JB10005/1	TF074	0	2/19/01	3:00:00 AM	2/25/01 3:0	00:00 AM						
7	NEORIO	JSSHIP	WCFITIN	RFITIN7	JB10005/1	TF101	0	2/19/01	3:00:00 AM	3/3/01 3:0	00:00 AM						
8	NEORIO	JSSHIP	WCFITIN	RFITIN8	JB10005/1	TF137	0	2/25/01	6:00:00 AM	3/9/01 6:0	00:00 AM	2000					
9	NEORIO	JSSHIP	WCWELD	RWELD1	JB10005/1	TL052	1	3/6/01 1	2:00:00 AM	3/18/01 12:0	00:00 AM	0000					
10	NEORIO	JSSHIP	WCPLATE	RPLATE13	JB10005/1	TL201	0	3/1/01 1	2:00:00 AM	3/11/01 12:0	00:00 AM						
11	NEORIO	JSSHIP	WCPLATE	RPLATE6	JB10005/1	TL204	0	3/11/01 1	2:00:00 AM	3/18/01 12:0	00:00 AM 🖁	8					
12	NEORIO	JSSHIP	WCWELD	RWELD3	JB10005/1	TL206	0	2/7/01 1	2:00:00 AM	2/22/01 12:0	MA 00:00						
13	NEORIO	JSSHIP	WCPLATE	RPLATE3	JB10005/1	TL21	n	3/16/01 1	2:00:00 AM	3/28/01 1:0	10:00 AM					Z <u> </u>	<b>_</b>
14	NEORIO	JSSHIP	WCPLATE	RPLATE14	JB10005/1	TL22	//	lama	🚺 αρ 2003		[1	9 Mαp 20	03	20 Μαρ 2003		21 Μαρ 2	20 🚊
15	NEORIO	JSSHIP	WCWELD	RWELD1	JB10005/1	TL22		Name	06	12 1	8	06	12 18	06	12 18	0	)6 🎽
16	NEORIO	JSSHIP	WCPLATE	RPLATE12	JB10005/1	TL25	♀ <mark>⊂∃co</mark> m	pany	5000								•
17	NEORIO	JSSHIP	WCPLATE	RPLATE14	JB10005/1	TL25		jepartment	0000								
18	NEORIO	JSSHIP	WCWELD	RWELD4	JB10005/1	TL26			0000								- •
19	NEORIO	JSSHIP	WCPAINT	RPAINT2	JB10005/1	TN8C	Ŷ		1000								- •
20	NEORIO	JSSHIP	WCRIG	RRIG3	JB10005/1	TN8C		∐`VMC1	Sec.	VMC	VN						1
21	NEORIO	JSSHIP	WCPAINT	RPAINT5	JB10005/1	TN84	Ŷ	VMC2	0000								-
22	NEORIO	JSSHIP	WCRIG	RRIG4	JB10005/1	TN9C		NMC2		/MCI 🗖	VMC2				VM	VMC	2
23	NEORIO	JSSHIP	WCPIPER	RPIPER3	JB10005/1	TP31	Ŷ	THMC1	10000								
24		неснир	weeneen	הסומכים	104.0006/4	трэо		П нмс1	0000	HMC1(nal		MC1/nart	HMC1	HMC1(nart 4	HMC1(part 4	HMC14	
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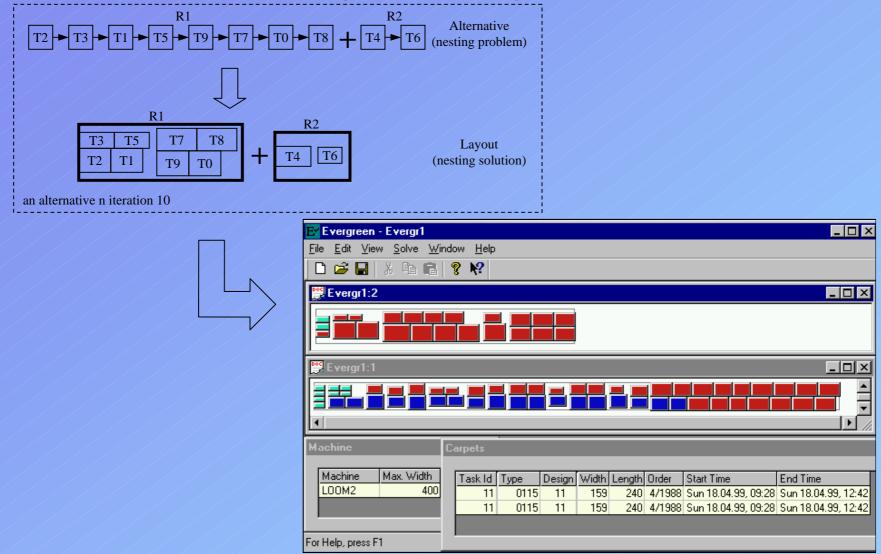
Chryssolouris, G., S. Makris, V. Xanthakis and D. Mourtzis "Towards the internet based supply chain management for the shiprepair industry", *International Journal of Computer Integrated Manufacturing*, (Vol.17, No.1, January-February 2004), pp. 45-57.

#### Real-time Manufacturing Scheduling And Production Planning Planning results

WC21: WorkCenter Tab panel		
(*)Company: NEORIO -		
(*)Department: JSSHIP 🔻		
(*)WorkCenter: WCPIPER		
Description:		
Fiting Section		WC21: WorkCenter Tab panel
Resources Policies Notes		(*)Company: NEORIO 🔻
Results		(*)Department: JSSHIP 👻
Resource Name Resource Description Departmen		
1 RPIPER1 Pipers Resource JSSHIP	WCPIPER NEOR	Description.
2 RPIPER2 2nd Pipers Resource JSSHIP	WCPIPER NEOR	
3 RPIPER3 3rd Pipers Resource JSSHIP	WCPIPER NEOR	
4 RPIPER4 4th Pipers Resource JSSHIP	WCPIPER NEOR	
5 RPIPER5 5th Pipers Resource JSSHIP	WCPIPER NEOR	
View Add Del	ete	
		Policy Name: 8_SHIPS_FIFO 🔻
		Rule Selection
		Scheduling Rule: FIFO -
		CLEVER
		EDD FIFO
		SPT V

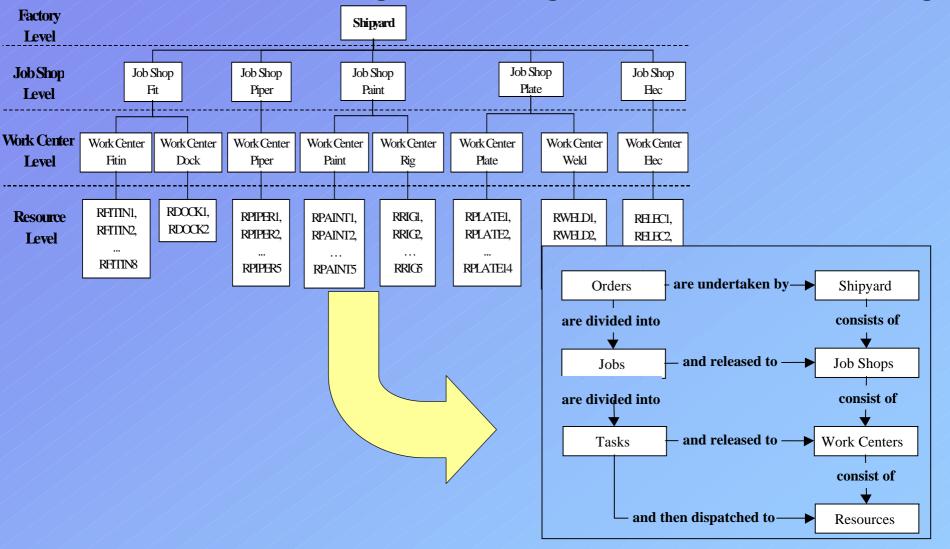
Chryssolouris, G., Mourtzis, D., Makris, S., An Approach to Planning and Control of Ship Repair Manufacturing Operations, CIRP 32th International Seminar on Manufacturing Systems – Technology and Chalenges for the 21st Century, Athens, 16-18 May, 2001c.

### **Real-time Manufacturing Scheduling And Production Planning**



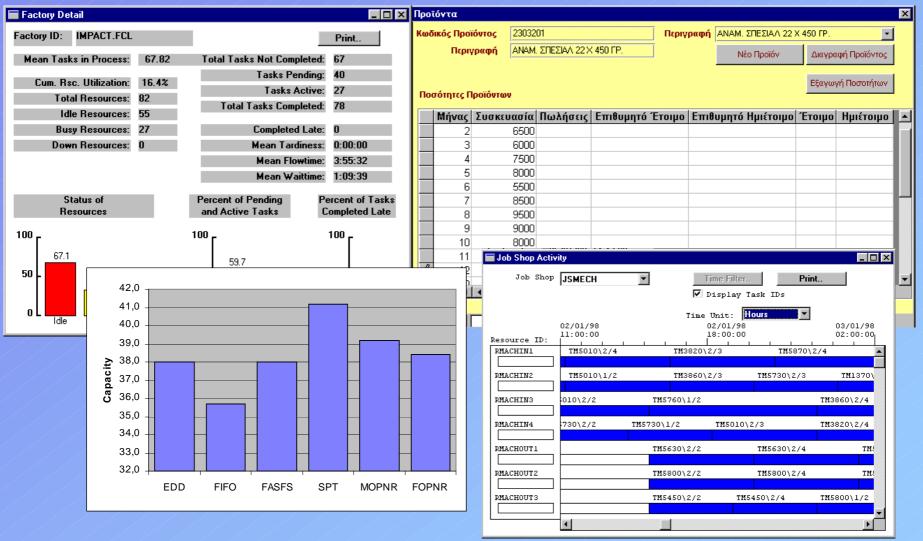
G. Chryssolouris, N. Papakostas and D. Mourtzis, "A Decision-Making Approach for Nesting Scheduling: A Textile Case", International Journal of Production Research, v. 38, 17, 4555-4564, 2000

### **Real-time Manufacturing Scheduling And Production Planning**



Chryssolouris G., Papakostas N., Makris S. and Mourtzis D., Planning and Scheduling of Shipyard Processes, Application of Information Technologies to the Maritime Industries, C. Guedes Soares, J. Brodda (Eds.), 255-274, 1999b.

## **Real-time Manufacturing Scheduling And Production Planning**



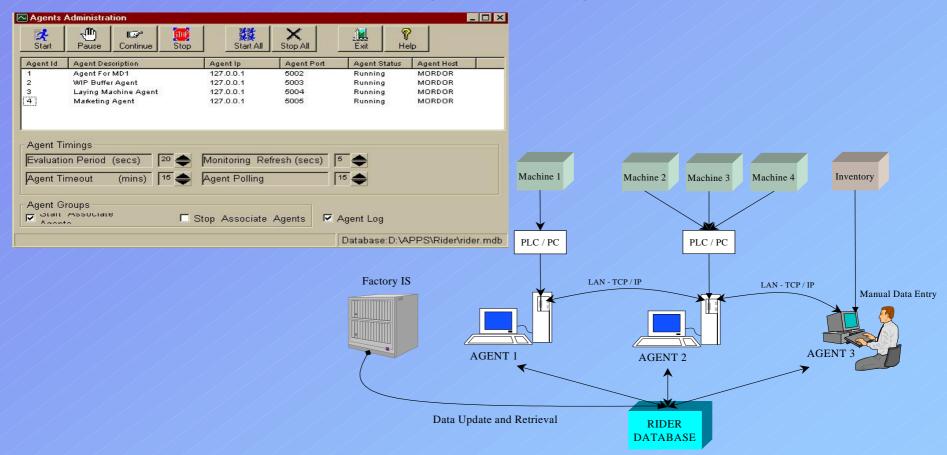
Chryssolouris G., Bechrakis K., Makris S., Xeromerites S., Mourtzis D. and Papakostas N., A Planning and Control Method for Shipyard Processes: A Shiprepair Yard Case Study, In C. Chryssostomides and K. Johansson (Eds.), 10th International conference on Computer Applications in Shipbuilding, ICCAS '99, 127-135, (MIT Press, Cambridge - Massachusetts), June 7-11, 1999.

#### Real-time Manufacturing Scheduling And Production Planning Agent based evaluation of alternatives

Resources Attributes by Ref		
	<u> - F</u> (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	
Resource Code MBM1	Bin Emptier	
Attribute Code	Task Scheduled ProcessTime	
Reference Type Operation	Attribute Type	
Reference Id BK,DNBD,72,70,BL		
Cost Weight 1	Function Id	Agent 4 Agent 3 Agent 2
Function Type Procedure	Function Loca	✓ (1) Alternative Set : Shift Work Orders□□ 216,080,020.00 - 82,662,500.00
Reason Scheduled Duratio	n of Task : BK,DNBD,72,70	合 6(1) Alternative Set : Increase Labour - Cons 133,417,520.00 - 4,108,680.00 680.00 64,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.000 44,108,680.00 _0 44,108,680.00 _0 44,108,108,680.00 04,108,108,680.00 04,108
Attribute Function Function Parameters GetOprPrsTm 0,3,BK,DNBD,72,7 *	0,BLND,BM1	▲ (2) Alternative Set : Machine Noa Action - C 129,308,840.00 - 34,751,480.00 <ul> <li>✓ (2) Alternative Set : Machine Noa Action - C 133,417,520.00 - 4,108,680.00</li> <li>▲ (3) Alternative Set : Increase Labour - Cons 129,308,840.00 - 34,751,480.00</li> <li>✓ (4) Alternative Set : Machine Noa Action - C 129,308,840.00 - 34,751,480.00</li> </ul>
	Agent Id Constaint I Event Id Reason Id	2       Dye2Blend Agent       Total Cost       216,080,020.00         d       (1) Alternative Set : Shift Work Orders II       216,080,020.( ^)         MBRDN       Machine Breakdown       (2) Alternative Set : Machine Noa Action - C 133,417,5;         (4) Alternative Set : Machine Noa Action - C 129,308,8;

Papakostas N., Mourtzis D., Bechrakis K., Chryssolouris G. and Doukas D., Doyle R., A Flexible Agent Based Framework for Manufacturing Decision Making, Proceedings of the FAIM99 Conference, Tilburg, Netherlands, published by Begell House Inc., 789-800, 23-25 June, 1999

### Real-time Manufacturing Scheduling And Production Planning Multi agent planning



Papakostas N., Mourtzis D., Bechrakis K., Chryssolouris G. and Doukas D., Doyle R., A Flexible Agent Based Framework for Manufacturing Decision Making, Proceedings of the FAIM99 Conference, Tilburg, Netherlands, published by Begell House Inc., 789-800, 23-25 June, 1999