

List of **Participants** and **Publications**

Vinnova project COMPLEX

"Support for Operation and Man-hour Planning in Complex Production

(Komplex produktion: Stöd för optimering av direkt och indirekt arbete, kompetens och information)

Vinnova ref# Dnr 2009-04029

Project period: 2010-01-01 ~2013-11-22

1 Participants

Researchers and Industrial Representatives

Organisation	Name
Volvo Cars, Göteborg , Dept 81020 Strategic Development, Göteborg	Anna Davidsson
	Anders Carlsson
	Lars-Åke Elfelin
	Mattias Eliasson
	José Sampil
	Henrik Bryntzér
	Sven Lundskog
	Jörgen Karlsson
Electrolux AB , Electrolux Global Business Dev Stockholm	Sven Blomberg
Electrolux AB , Industrial Engg, Mariestad Plant	Jan Andrén
Volvo Technology AB , (part of AB Volvo) M1.4 Göteborg	Lena Moestam Ahlström
	Thomas Lezama
Volvo Powertrain, Skövde Plant	Tony Forsell
Stoneridge Electronics , Örebro	Stefan Höög ,
	Thomas Andersson
Chalmers University of Technology, Product and production development ,	Johan Stahre
	Sandra Mattsson
	Tommy Fässberg
	Åsa Fasth

Swerea IVF AB Dept Product Realization, Mölndal	Per Gullander
	Ulrika Harlin
	Gunnar Bäckstrand
Swerea IVF AB Dept Product Realization, Stockholm	Kerstin Dencker
Volvo Cars, Gent Volvo Car Corporation Dept. 81024/GC3-H BE-9000 Ghent Belgium	Raf Forier Bart Debacker Alfons van den Bergh
Flander's Drive	Jan Bracke Ger van den Kerkhof,
Universiteit Gent	Rik van Landeghem, Luiza Zeltzer, Veronique.Limere, El-Houssaine Aghezzaf

Master Thesis Students

Master Thesis Work	KTH	Electrolux No 1	Maria Björnelund Linus Andersson	Supervisor Kerstin Dencker, KTH
		Electrolux No 2	Daði Janusson and Vilhjálmur Alvar Þórarinsson	Supervisor Kerstin Dencker, KTH
		Electrolux No 3	Emre Ozugurel , Abhiram Reddam	Supervisor Kerstin Dencker, KTH
		Electrolux No 4	Kushal Lokhande, Maheshwaran Gopalakrishnan	Supervisor Kerstin Dencker, KTH
	Chalmers University of Technology	Stoneridge Electronics	Johanna Lundqvist Johan Löfgren	Tommy Fässberg, Chalmers
		Volvo Cars No 1	Dhasarathi Srinivasan Gebremedhin & Tesfay Gebretsadik	Thomas Fässberg, Johan Stahre, Chalmers
		Volvo Cars No 2	Mattias Karlsson & Tommy Schoug	Thomas Fässberg, Johan Stahre, Chalmers

2 Other publications

- Gullander, Per. "Metoder för att mäta, förstå och reducera komplexiteten i produktion - indirekt arbete, information och kompetens (COMPLEX)", i *Hållbara produktionsstrategier samt Tillverkning i ständig förändring*, Projektkatalog 2012, Vinnova, 2012,
<http://www.vinnova.se/sv/Aktuellt--publicerat/Publikationer/Produkter/Hallbara-produktionsstrategier-samt-Tillverkning-i-standig-forandring/>
- Gullander, Per. "Metoder för att hantera komplex produktion", Teknik & Tillväxt, Nr 3, s18-19, 2011, www.swereaivf.se, Swerea IVF
<http://www.swerea.se/sv/ivf/publikationer/tidskrifter-och-nyhetsbrev/>

3 Theses

- Sandra Mattsson: *What is perceived as complex in final assembly? To define, measure and manage production complexity*, Lic Thesis, Research series from Chalmers University of Technology, Department of Product and Production Development: report, ISSN 1652-9243; nr 81 Chalmers University of Technology Göteborg, Aug 2013
<http://publications.lib.chalmers.se/publication/180925>

4 Conference Publications

- SPS11** Gullander, Per, Anna Davidsson, Kerstin Dencker, Åsa Fasth, Tommy Fässberg, Ulrika Harlin, Johan Stahre: "Towards a Production Complexity Model that Supports Operation, Rebalancing and Man-hour Planning". In Proceedings Swedish Production Symposium (SPS'11), Lund, Sweden, 3-5 May, 2011.
- ICPR11** Fässberg, T., U. Harlin K. Garmer, P. Gullander, Å. Fasth, S. Mattsson, K. Dencker, A. Davidsson, J. Stahre: "An Empirical Study Towards A Definition Of Production Complexity", In Proceedings of 21st International Conference on Production Research (ICPR), Stuttgart, Germany, July 31 - Aug 4, 2011.
- IMC11a** Mattsson, Sandra, P. Gullander and A. Davidsson. "Method for Measuring Production Complexity". In Proceedings of 28th Int. Conf. International manufacturing conference, IMC 28, Dublin City University, Dublin, Ireland, 30 Aug - 1 Sept, 2011
- IMC11b** Harlin Ulrika, Bäckstrand Gunnar, Fässberg Tommy, Anna Brolin, and Gullander Per. "Production Complexity and its Impact On Manning". In Proceedings of 28th Int. Conf. International manufacturing conference, IMC 28, Dublin City University, Dublin, Ireland, 30 Aug - 1 Sept, 2011
- CATS12** T. Fässberg, Å. Fasth, F. Hellman, A. Davidsson and J. Stahre, "Interaction between Complexity, Quality and Cognitive automation", CIRP Conference on Assembly Technologies and Systems, University of Michigan, Ann Arbor, USA on May 21-23, 2012.

SPS12 Gullander, P., Mattsson, S., Fässberg, T., Van Landeghem, H., Zeltzer, L., Limère, V., Aghezzaf, EH, Stahre, J. "Comparing two methods to measure assembly complexity from an operator perspective", In Proc Swedish Production Symposium (SPS12), 6-8 nov, Linköping, Sweden.

ISAM13 Mattsson, S, Å. Fasth, K. Dencker, P. Gullander, Johan Stahre, M. Karlsson, A. Davidsson, "Validation of the complexity index method at three manufacturing companies", International Symposium on Assembly and Manufacturing (ISAM), Xi'an, China, July 30-Aug 2, 2013.

CMS12 S. Mattsson, P. Gullander, U. Harlin, G. Bäckstrand, Å. Fasth, A. Davidsson, "Testing Complexity Index - A Method for Measuring Perceived Production Complexity", 45th CIRP Conference on Manufacturing Systems (CIRP CMS), Procedia CIRP - Elsevier, 3 pp. 394-399, Athens from 16-18 May 2012

5 Journal articles

JMS13 Fast-Berglund, Åsa; Fässberg, Tommy; Hellman, Filip; Davidsson, Anna; Stahre, Johan: Relations between complexity, quality and cognitive automation in mixed-model assembly. *Journal of manufacturing systems*, 4 (11)

IJMR13 Sandra Mattsson, Malin Karlsson, Per Gullander, Hendrik Van Landeghem, Luiza Zeltzer, Veronique Limère, El-Houssaine Aghezzaf, Åsa Fasth and Johan Stahre. Comparing quantifiable methods to measure complexity in assembly, Accepted (Oct 2013) for publication in International Journal of Manufacturing Research.

6 Master Thesis Work

ELUX1 Andersson, L. & M. Björnelund: "An Approach to How Complexity is Affected by the Level of Automation in a Production System - A Case Study brought out at Electrolux", Master Thesis project, Department of Production Engineering Royal Institute of Technology, Supervisor: K. Dencker, Examiner: A. Hansson, Stockholm, 2010.

ELUX2 Janusson, Daði, & Vilhjálmur Alvar Þórarinnsson, " An Analysis of the Kitting Process at Electrolux Mariestad", Master Thesis project, Department of Production Engineering Royal Institute of Technology, Supervisor: K. Dencker, Examiner: A. Hansson, Stockholm, 2010.

ELUX3 REDDAM, Abhiram, & Emre OZUGUREL. "Strategies for Assembly Line Re-Balancing with focus on Level of Automation, A Case Study brought out at Electrolux", Master Thesis project, Department of Production Engineering and Management, School of Industrial Engineering and Management, 2011, Royal Institute of Technology, Stockholm, Supervisor: K. Dencker, Examiner: A.Hansson

ELUX4 K. Lokhande, M. Gopalakrishnan. "Analysis of impact of process complexity on unbalanced work in assembly process and methods to reduce it". Master Thesis project, Dept of Production Engg and Management, School of Industrial Engg and Management, 2011, Royal Inst of Techn, Stockholm, Supervisor: K. Dencker,

VCC1 SRINIVASAN, Dhasarathi, & GEBREMEDHIN Tesfay Gebretsadik, "Principles of material supply and assembly systems in an automotive production system", Master of Science Thesis in Production Engineering, Department of Product and Production

Development, Division of Production Systems, Chalmers University of Technology.

VCC2 Mattias Karlsson, Tommy Schoug. "Distribution of time in complex assembly - A simulation approach to assess balanced and unbalanced time". Dept of product and production dev, Chalmers Univ, June 2012.

SRE1 Lundqvist, Johanna, & Johan Löfgren . "Evaluation of cost associated with variance of products" Master of Science Thesis in Production Engineering, Department of Product and Production Development, Division of Production Systems, Chalmers University of Technology