



norden

Nordic Forest Research
Co-operation Committee (SNS)

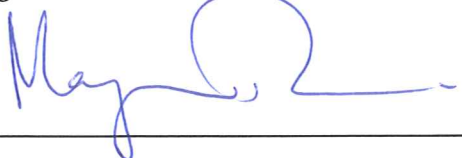
Send the report to SNS-secretary Katrine Hahn Kristensen (hahn@life.ku.dk)

FINAL REPORT for CAR

Please notice that the size of text sections in the form can be adjusted if needed.
The length of the final report should not exceed 3 pages. **Supplementary information can be attached**

1. CAR titel	OSCAR- Operation systems centre of advanced research
2. CAR coordinator (name, address, telephone, e-mail)	Magnus Thor Skogforsk Uppsala Science Park 751 83 Uppsala
3. Duration	2005-2010 (originally 2005-2009, but with one year prolongation)
4. Cost (euro)	SNS-funding: 51000 -53 000 euro per year Other funding: Total 2 937 000 euro (89%), 75 000 -750 000 per year
5. The purpose of the CAR / main problems / hypotheses addressed	The OSCAR objectives are 1) To increase the excellence and critical mass of R&D within the field of operation systems by integrating research resources and expertise, and 2) to promote, initiate and develop <i>efficient, competitive and environmentally friendly forest operation systems</i> on a joint Nordic basis, with special emphasis on technology and support systems.
6. Brief description of the network and research plan and of possible larger deviations from the plan	<p>The OSCAR network involved the following persons and organizations: Coordination committee: Øystein Dale (Department director, Skog og landskap, MSc.), Lennart Rådström (Research director Skogforsk, MSc), Heikki Pajuoja (Managing director Metsäteho, PhD), Antti Asikainen (professor Forest Engineering, Metla), Kjell Suadicani (Senior consultant, Faculty of Life Sciences, Copenhagen university, MSc), Andis Lazdiņš (Researcher Silava, MSc). Institutions involved beside the above mentioned were Copenhagen Business School, University of Jyväskylä, SLU, University of Helsinki, University of Joensuu, MEKA, SP, Standard Norge, and more.</p> <p>OSCAR projects and work originated from identified working groups, such as “forest energy”, “soft logging”, “forestry business engineering”, mechanical silviculture” etc. The research plan relied on the national activities, and the institutes’ own plans and funding. In the OSCAR CC, research managers agreed on the areas in which to join activities. There was some overlapping of activities</p>

	<p>identified, mostly considered to be of a “benign repetition” type. In cases where gaps or overlaps were identified, attempts to adjust this were made, e.g. standardizing forest work study and forest work nomenclature (which is the basis for much research on forest operations), standardization of agreed documents within contracting (forestry business engineering), and a common approach to work studies of forest energy harvesting.</p> <p>Besides research activities, workshops and seminars, the main OSCAR activity was the biennial research conference.</p>
7. Results (max 2 pages)	<p>The objectives of the CAR have been met. Examples include conferences, important strategy work leading to national research programmes, a research school of forest technology – FIRST - in Sweden and Finland with open Nordic PhD courses in the programme, field demonstrations, and seminars. The biennial OSCAR research conference in the number one meeting venue for researchers in forest operations in the Nordic and Baltic countries. OSCAR performed a Nordic standardization of load scales, financed partly by NordForsk, and also founded a common structure of agreed documents for tendering of logging and silvicultural services. Furthermore, OSCAR and OSCAR environments have played an important role in e.g. some of the mindwork behind Forest Cluster Ltd in Finland, and the set-up of the board and research program for Efficient forest energy supply systems (ESS) in Sweden, involving researchers from Norway and Finland.</p> <p>There has been a significant increase in cooperation in the area of forest energy (Sweden, Finland, Norway, Latvia). Examples include exchange of PhD students and common contract work. There was also exchange of experience and CAR management with other CARs.</p> <p>In terms of forest operations the Nordic countries are very different from each other. There are however several common components, such as the technology used in forest operations. This technology has a solid Nordic base, and our countries' future competitiveness relies quite heavily on the success of Nordic R&D within the OSCAR field. Through OSCAR each country has a good chance to benefit from knowledge in all countries in areas where there are not enough national funding for research on forest operations.</p>
8. What advantages have been gained by the Nordic collaboration	<p>There are several examples of projects, contacts and intensified collaboration – both bilateral and multilateral – that had not taken place had it not been for OSCAR. In this context, the inclusion of the Baltic countries (especially Latvia) has been extra stimulating.</p> <p>OSCAR activities have strengthened the Nordic Cooperation within several areas of research, e.g. forest energy, work environment and forestry business engineering.</p>
9. Publications and other communication activities (International scientific peer reviewed journals, other scientific publications, short communications, web etc.)	<p>Anon. 2006. Forestry Studies, vol. 45. (special issue on the OSCAR research conference in Tartu). ISSN 1406-9954.</p> <p>Belbo, H (ed). 2010. Forest operations research in the Nordic Baltic region. Proceedings of the 2010 OSCAR conference held in Honne, Norway, October 20 – 22, 2010. Rapport fra Skog og landskap 12/2010. ISSN 1891-7933, 92 pp.</p> <p>Jönsson, P. 2009. Swedish forestry sector achievements to minimize WBV for the machine operators. 2nd International Conference on Human Vibration, Measurement and tests, 16-17 juni 2009, Boden.</p> <p>Löfroth, C., Marcusson, C. & Jonsson, M. 2006. Standardiserad lastkontroll på virkesfordon (Nordic innovation centre ref No: 04169-JE) Slutrapport.</p>

	<p>Skogforsk Arbetsrapport 620.</p> <p>Suadicani, K. & Talbot, B. (Eds.). 2008. The Nordic-Baltic Conference on Forest Operations – Copenhagen September 23-25, 2008. Forest & Landscape Working Papers No. 30-2008, 92 pp. Forest & Landscape Denmark, Hørsholm.</p> <p>Thor, M. Profitable forestry in the Nordic and Baltic countries – Notes from a seminar discussion 2007-11-16 (the seminar was held at Arlanda airport).</p> <p>Thor, M. 2011. Developing the cut-to-length technology and method: innovation through cooperative development. In: Ackerman, P & Ham, H. Proceedings of the 4th Forest Engineering Conference: Innovation in Forest Engineering - Adapting to Structural Change, White River, South Africa April 5-7, pp. 88-89.</p> <p>Thor, M., Löfgren, B & Rådström, L. 2011. Developing the cut-to-length technology and method: innovation through cooperative development. In: Ackerman, P. & Ham, H. (eds), Proceedings of the 4th Forest Engineering Conference: Innovation in Forest Engineering - Adapting to Structural Change, White River, South Africa April 5-7, pp 88-89.</p> <p>www.skogforsk.se/oscar www.nordicforestresearch.org/sns-research/car/oscar/.</p>
<p>10. CAR summary (about 1/3 page) for possible use in the News & Views section of Scandinavian Journal of Forest Research</p>	<p>The forest sector is subject to fierce competition. Success relies on first-class products and competitive costs. Research on competitive and environmentally sound raw-material supply is of central importance. This research should be supported by forest industry, machine manufacturers, forest owners and society. The threat scenario implies decreased productivity development and low added value, which create decrease in supply, profitability in forestry and decreased investments in forest industry. If the leadership within the Nordic technology for cut-to-length is lost to e.g. North America or Japan, less suited and probably less environmentally friendly machines would be the result.</p> <p>OSCAR played an important role in promoting research and development within this field. The biennial research conferences provided valuable forums for researchers and forest professionals to meet and discuss current and future needs. OSCAR has also contributed in focusing and increasing the critical mass in applied forest operations research, which also yielded strategic research programs in several of the participating countries.</p> <p>For the future, R&D related to productivity, energy efficiency, the reduction of impact of forest operations on the outer environment, and efficient use of forest energy are very important within the field of OSCAR.</p>
<p>11. Date and signature</p>	<p>Date: 2012-03-05</p> <p>Signature of CAR coordinator: </p>