The Technology Management Network

Project:	The Technology Management Network
Meeting type:	***Meeting no. 6: The Acquisition of Selected Technologies***
Date:	Tuesday 6 June 2000
Venue:	Norsk Hydro, PB 7190, Bergen, N-5020, Norway, Tel: [47] 55 99 0000
Local contact:	Finn-Erik Skaar, Tel: [47] 55 99 60 28, E-mail: *finn.erik.skaar@hydro.com*, Or Olive Hojklint, Tel: [47] 55 99 57 61, E-mail: *olive.hojklint@hydro.com*
Coordinator:	Jenny Smith, Offshore Technology Management Ltd, 44 Quarry Street, Guildford GU1 3XQ, UK, Tel: +44 1483 598000, Fax: +44 1483 598010, Mobile: [44] 07718 586441, E-mail: *jenny.smith@otmnet.co.uk*
Hotel:	Radison SAS Airport Hotel, ***Oslo Gardemoen Airport***
Booking***:***	***Please advise OTM of your accommodation requirements by or Friday 26 May 2000***
Dinner:	Those staying in Oslo on the evening of 5 June are invited to join our host and OTM for dinner in the hotel dining room at 19.00hrs.
Travel:	Those stopping over in Oslo on 5 June should book on the SK307 flight from Oslo to Bergen at 08.00, arriving in Bergen at 08.50. Norsk Hydro's offices are a short (10 minutes) taxi ride from Bergen airport. Please report to the main visitor entrance and ask for Finn-Erik Skaar or Olive Hojklint.

DRAFT agenda:

	Arrival and tea/ coffee		***From 9.00***
1.	Welcome and introductions	OTM	9.30
2.	Framework and objectives for the day	OTM/ All	9.35
3.	Presentation on the acquisition of selected technologies and wider technology management processes	Alan Turner, BG International	9.40
4.	Operator presentation on the acquisition of selected technologies	*To be confirmed (company invited)*	10.10
	Tea/ coffee		***10.40***
5.	Round table sharing of issues/ problems/ processes and solutions related to the acquisition of selected technologies	All, facilitated by OTM	11.00
6.	Guest presentation on the acquisition of selected technologies and wider technology management processes	*To be confirmed (ABB invited)*	11.45
	Lunch		***12.20***
7.	CAVE demonstration		13.15
8.	OTM initiatives: TechnologyBrokering.com and Standard Economic Model (STEM)	OTM	14.15
	Tea/ coffee		***14.45***
9.	Forum group session or presentation from Norwegian Petroleum Director/ Demo 2000 on support for technology initiatives	*To be confirmed*	15.00
10.	Project management & related initiatives update (Website, members, benchmarking project, diploma study, Cambridge University Symposium, ITF, Contractor TMN)	OTM	15.30
11.	Next meeting date, venue & topic		15.50
	Meeting ends		***16.00***

Expected attendees

ABB Offshore Systems	Ole Berg
BG International	Alan Turner
BP Amoco	*To be confirmed*
Conoco Norway	Ole Lindefjeld
Elf Exploration	Alan Burns
Elf Norge	Alain Goulois
ENI Agip	Giambattista de Ghetto
ExxonMobil	Mike Turner
Norsk Hydro	Finn-Erik Skaar
OTM	Jenny Smith
Shell	Keith Eastwood
Statoil	Jan Morten Ertsaas

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6 June 2000: The Acquisition of Selected Technologies

At this meeting it will be assumed that the process of needs identification and prioritisation, followed by dissemination of these needs coupled with a technology watch programme, has resulted in a collection of favoured technologies which a company wishes to access. The technology management process has then to consider the state of maturity of these technologies and how they may be brought to market in the most cost effective and speedy way.

There are various means of commercialising technologies – each of which will have its different advantages/ disadvantages and management requirements. The following table records some of the acquisition methodologies based upon technology maturity.

Level of maturity	*Likely acquisition vehicles*	*Activities*
Existing technology & enabling technologies	• Purchase, licence, copy (avoiding IPR issues)	Apply
Existing technology lacking enabling technologies	• Stimulate supply sector to develop enabling technologies - eg issue invitation to tender for project • Financial assistance to service company • JV with service company (& technology owner) • Encourage technology owner to find commercialisation partner	Limited R&D followed by demonstration testing/ field trials
Emerging technology	• Buy into existing JIP • JV/ JIP with technology owner/ service co(s). • Stimulate development through non-financial means • Monitor development in hands-off manner	Prototyping and testing, field trials/ technology demonstration, development of enabling technologies
Concept	• Consider IPR issues (if company's own idea may wish to patent) • Launch JIP • Launch JV • Develop in-house • Contract research out as single funder	Feasibility study, conceptual engineering & desk top testing, detailed engineering, prototype testing, field trials/ technology demonstration, development of enabling technologies

Table 1: Technology acquisition methods

In the meeting we can share experiences of the above (and other) methodologies and consider the pros and cons of each. Companies will have their own ways of selecting an acquisition method based upon different criteria – and these may also change according to the criticality of the technology for the business. For instance, a technology with the potential to transform a business or create significant value, may be put on a fast track commercialisation programme and IPR may be retained within the company. The acquisition route will also depend upon the company's overall policy with respect to being a technology leader, a first follower or follower (and this policy may itself depend upon the perceived criticality of the technology).

For instance, a common techology development vehicle is the JIP, which has the advantage of considerable leverage but the disadvantages of a potentially slower route to market and the need to reach consensus with all participants (therefore with the potential to not wholly meet a particular participant's needs). If the JIP is a preferred vehicle then this calls for considerable planning and far-sightedness on the part of companies with a particular need which will arise in a defined time horizon.

However, there are may advantages of multi-company initiatives which are less quantifiable, such as:

- Creating a focal point in the market for like technologies/ enabling technologies
- Demonstrating a strong market need leading to stimulation of the supply sector to develop competing and enabling technologies
- Promotion of learning-sharing with related initiatives
- Increased opportunities for field trials

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Different acquisition vehicles will also have their own management requirements. For some it may be possible to maintain a hands-off attitude and monitor development, receive progress reports etc without actively participating. Others will require considerable input on the part of the company – particularly where the technology is to be developed in-house or via a joint venture with one or more partners. Companies will have different means of managing projects including the appointment of project champions or leaders.

At the meeting therefore, the emphasis will be on sharing decision-making processes and the criteria used to evaluate acquisition methodologies, plus management means employed to ensure projects produce the requisite deliverables within budget and time constraints. The decision-making process be a simple, almost ad hoc procedure with the options limited – in other cases a complex procedure may be undertaken. As usual, lessons learnt, issues and best practice/ critical success factors will be captured and enlarged upon.