Framtidsfabriken Makes Major Commitment to Heavy Media

"Advantage Sweden – Advantage Framtidsfabriken." We have a unique of 'time monopoly' right now.

"During the last couple of weeks, Sweden has taken the lead when it comes to making highspeed data transfers available at low prices. The so-called 'Broadband War,' started by Bredbandsbolaget, in which Telia is also participating (in delivering 10 Mb/s for 200 SEK/month), has created unique possibilities for the next generation of Internet and for totally new communication services. The commercial possibilities are enormous, greater than Sweden's early commitment to mobile telephony that created alternative revenue of over 100 billion SEK," says Jonas "Birger" Birgersson, founder and CEO of Framtidsfabriken and founder and chairman of Bredbandsbolaget.

"All experts agree that broadband services will be a global billion industry that will integrate servers such as telephony and cable-TV with totally new services," Jonas "Birger" Birgersson says. "That Sweden has the possibility to build these services ahead of all the competition is an outstanding opportunity and we will take it seriously; Framtidsfabriken will do all in its power to use this 'monopoly of time' along with its clients and other leading corporations in order to gain a global advantage."

Focus area BIP - Broadband IP-applications / Heavy Media

Framtidsfabriken was one of the first companies in the world to concentrate on moving images and 3D over the Internet *(see Background).* With broadband becoming more widespread we will put serious effort into recruiting TV-producers, 3D-creators as well as real-time and game programmers. The first BIP-cell is in place and operating in Malmö and more are underway. The company is also reinforcing its technical departments with additional experts on video servers, telecommunications and network construction. Framtidsfabriken is focused on being the leading supplier in utilising the new broadband networks and is now recruiting aggressively to build a Swedish 'Dream Team' in this new area.

What is Heavy Media?

The major difference between today's Internet services and heavy media are two factors. The first one is named AORTA (Always On, Real-time Access) and means that one's computer is always available on the Net. This means that as a user, one can always get the information one needs rapidly, and your computer can function as a server (i.e. publish information). The other factor is that completely new levels of audio-visual freedom are opening up, which in brief means that creative minds no longer have to be content with just images and text. They

can now use full-screen moving images and 3D-objects, as well as integrate phone and videophone functionality in regular web services.

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Framtidsfabriken's business concept is to create new business for the evolving network economy through digital and interactive services.

Framtidsfabriken today has 500 employees spread over 14 offices located in Gothenburg, Copenhagen, Linköping, London, Lund, Malmö, Stockholm and Paris.

Framtidsfabriken is the general supplier of Internet services to Volvo Car Corporation, Volvo Group, Vattenfall, IKEA and Electrolux. Among our other clients are Astra, GE Capital, the SAAB Group, Tele Danmark and Unibank. Framtidsfabriken is listed on the Stockholm Stock Exchange (ticker FTID).

Background

When we can get access to high transfer speeds (i.e. broadband), entirely new audio-visual services can become available.

Necessary bandwidth in Megabits/second:

Video	1.5	GSM	0.0096
(VHS) Video	3.0	TFN	0.064
(NTSC)	5.0	1110	0.001
Video	6.0	Modem	0.056
(PAL) HDTV	24.0	ISDN	0.128

When it comes to video, the numbers are averages and the true number is dependent on how much of the image that is updated from frame to frame. News content typically needs the least bandwidth, while live sporting events needs the most. It is this 'bandwidth map' that should be used when comparing different technologies for data communication in households.

Ethernet		Cable-TV	xDLS/ADSL	Conventional
				Modem
Infrastructure	Property net	Upgraded Cable-TV net	Telephone net	Telephone net
Bandwidth in	Approx. 10Mbps (two-way)	Approx. 10Mbps*	2 Mbps	28,8 - 56 kbps
Bandwidth out	10 Mbps	1,5 Mbps	150 kbps	28,8 - 56 kbps
Network card required?	Yes	Yes	Yes	No
Modem required?	No	Yes, cable modem (approx. \$300)	Yes, ADSL-modem (approx. \$375)	Yes, phone modem (approx. \$60)
Global Standard?	Yes, Ethernet	No, provider- dependent	No, provider- dependent	Yes
ls bandwidth upgradeable?	Yes, to 100Mbps. Soon to 1000Mbps	No	No	No
Approx. cost	Monthly fee, approx. \$25	Monthly fee, and possibly fee per minute connected	Monthly fee and fee/megabyte	Monthly fee and fee per minute connected

Technological solutions for broadband access

See www.bredband.com for more information.

Since September of 1996, Framtidsfabriken has worked with heavy media. Framtidsfabriken and the Volvo Car Corporation conducted the seventh commercial video broadcasting over the Internet in the world and were the first in Europe with this technology. The content was the introduction of the then new Volvo C 70 in Paris. A number of companies were involved as subcontractors, among them Telia and Macromedia.