

## **Income-Producing Options - International Scientific Channels**

Five types of institutions could provide financial support for international scientific channels: corporations, governments, universities, foundations, and professional scientific societies:

### **I. Corporations**

Corporations would subscribe to, or underwrite, international scientific channels:

To monitor, at low cost, a wide range of new ideas and results, in many countries, 1-2 years before print publication.

To identify potential consultants.

To reduce current travel costs.

To carry their own advertising, at low cost, to well-targeted technical audiences, domestically and globally. (See Appendix A, "Advertising Revenue for International Scientific Channels.")

As a far-sighted investment to stimulate, worldwide, innovations the company can use. These would include products (e.g., synthetic fuels); processes that cut across industries (e.g., efficient or intelligent manufacturing systems); or useful tools (e.g., better computer simulation of physical processes.)<sup>1</sup> A

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<sup>1</sup> This new technology offers an unusual potential to engage a global scientific audience in challenging problems and stimulate additional creative thought. Imagine a Tuesday brown-bag lunch reserved for such uses. If one could gene-splice seaweed and cash crops, it would be possible to irrigate the deserts with salt water and make them bloom. It would be a wonderful contribution. Only a small group of researchers now are working on the problem. But suppose you advertise the problem for a Tuesday global brown-bag and bring together several of the best researchers tackling this problem, and creative thinkers from related lines of work. For an hour and a half on Tuesdays, perhaps, scientists throughout the world might have a common focus - and a graduate student in China might be inspired

company might sponsor a set of broadcasts (e.g., pharmaceutical companies might underwrite biochemistry; insurance companies might underwrite statistics); or an entire network (e.g., a Cable & Wireless Channel for telecommunications-related research).

As an attractive advertising vehicle to convey a progressive international civic image.

A contract to carry the first scientific channels, and to sign-up users, would be a competitive opportunity any global telecommunications company would find highly desirable. The role offers immediate access, with a unique and valuable product, to R&D-oriented companies, research universities, and government labs worldwide. In addition to an opportunity to sell peripheral equipment (satellite dishes, conference rooms, training personnel), Cable & Wireless's sales representatives can establish contacts and long-term relationships to explain other products and meet future needs.

The strategic benefit would work internationally: a company could have unique and competitively attractive products to extend global operations throughout North America, Western Europe, China, Japan, and Russia. And a global scientific channel - i.e., an open architecture initiative devoted to the common goal of scientific advancement and economic growth - also would be a politically attractive way to take these first steps across national boundaries.

Corporations like Corning (fiber optic cable) and the telecommunications industry have a business interest to underwrite a critical mass of users for advanced (video) technology and growing demand for new, routine, use of international services. Once basic programming becomes available, demand and sales will grow more quickly. The international scientific networks programming will be highly desirable to scientists and engineers in highly competitive, technology-driven industries. A strategically-designed set of such basic programming may be a good way to encourage the rapid sale of international video communications equipment and services across a wide geographic range and variety of organizations.

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and think of an idea. A similar global focus, engaging scientists of many different backgrounds, might produce breakthroughs for malaria, more efficient batteries, or for numerous other problems.

International hotel chains might have a financial interest. Many international scientific meetings take place at hotels that are part of such chains (Hilton, Marriott, ITT-Sheraton, Carlson/Radisson, Bass/Holiday Inns, etc.). Professional videotaping would be a valuable add-on business. The chains also might purchase transmission services (a Bass or Hilton Channel) to provide such conferences to rented meeting rooms at other international hotel sites.

The networks could carry advertising and sell advertising in publications (equivalents of TV-Guide) associated with each network. Leading international advertising agencies (e.g., Saatchi and Saatchi, Young & Rubicam) might underwrite the networks with the expectation of increased business in the sale of advertising.<sup>2</sup>

Scientific publishers (e.g., McGraw-Hill, Scientific American, American Association for the Advancement of Science) might create additional value from their investments and develop new forms of sponsored scientific journalism (e.g., a Biotechnology Update).

## II. Governments

Governments could find the channels attractive:

To support technology transfer, from all international sources, to their own corporations.

To enrich the curriculum of a nation's institutions of higher education.

To support the work of scientists in government labs and agencies.

To build a new basis for world order, to stimulate economic growth, and to stimulate progress in solving international problems (e.g., environment-related) which could benefit from major breakthroughs in the next several years.

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<sup>2</sup> Advertising could be organized and scheduled (e.g., new products related to electron microscopy). If advertising charges were indexed to revenue, small startup companies (especially in Third World countries) could make their initial products known to a global audience at a remarkably low cost. See the further discussion in Appendix A.

### III. Universities

Universities could contribute depending upon the size of their research budgets.

### IV. Foundations

Foundations might underwrite programming to stimulate innovation in their areas of philanthropic interest (e.g., environmental research; programming for Russia, Eastern Europe, and the Newly Independent States.)

### V. Professional Societies

Professional societies could operate the channels as services to their members, drawing partly upon dues or additional charges.

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## Appendix A

### Advertising Revenue for International Scientific Channels

Given changes in technology and economics, it will be feasible to have channels that provide basic services without advertising, supported entirely through a portion of annual dues, philanthropy, subscription fees from R&D-oriented companies, or other sources.

However it may be possible, with thoughtful design, to include advertising without adversely affecting the character of the networks, and to provide additional services at lower cost as a result of advertising revenue. The following information may be useful:

Basic advertising rates are determined by the size of an audience and its demographic characteristics.

For scientific networks, a relevant comparison is the advertising rates of leading scientific journals and (perhaps) several specialized medical channels. The following chart compares the ad rates per 2-page, 4-color spread (or 1 minute commercials) and the rates /1,000 potential readers or viewers.<sup>3</sup>

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<sup>3</sup> These numbers are drawn from research conducted by Gary Welz, supported by the Sloan Foundation, and reported in "Information for Advertisers" from the Science and Engineering Television Network's, Information for Advertisers (NY: Association for Computing Machinery, 1993). (A copy of the report may be obtained from Mr. Welz at

	<u>Cost per ad/pot. viewers</u>	<u>Rate/1,000</u>
<u>Science Magazine</u>	\$13,600/477,000	\$29
<u>Nature</u>	\$11,890/357,000	\$33
<u>Scientific American</u>	\$73,200/1,661,000	\$44
<u>Lifetime Medical Television: Physicians Journal Update</u>	\$6,000/41,652	\$144
<u>American Medical Television</u>	\$5,145/178,000	\$29

Specialized scientific broadcasting channels allow a new and unique degree of well-targeted advertising. They may prove highly desirable to manufacturers of products designed for scientific and engineering tasks.

Several concerns about the nature of advertising, and the wisdom and appropriateness of including it, deserve comment:

Perhaps the greatest concern, is that a "ratings game" might develop, with areas of science, lines of investigation, or programming being included or dropped because of the size of an audience. If the goal of the network is to increase the rate of scientific innovation, the size of an audience may be a misleading measure. (It may be small groups or invisible colleges, working at a cutting edge, who drive scientific innovation and who should have the highest priority for air time.) Any scientific society accepting advertising would need to weigh the extent of its anticipated reliance on this source of revenue and its vulnerability to short term revenue-maximizing pressures that might reduce the long term benefits of the networks.

- Experience suggests several examples where intellectual integrity and scientific quality have been maintained in the presence of advertising and even by for-profit companies. For-profit publishers like Scientific American, Annual Reviews, Inc., and the Institute for Scientific Information provide services of outstanding merit and

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the ACM, 1515 Broadway, 17th Floor, New York, NY 10036-9998. ) The comparison with print media likely understates the marketing advantage of television: the SETN report suggests that audience recall of 60 second commercials is greater, by a factor of 3:1, than recall of 2-page, 4-color advertisements in journals.

intellectual integrity; leading scientific publications (e.g., Science) include advertising without any apparent effect on editorial decisions.

Television advertising is intrusive, in a more direct way than print advertising. It interrupts, often for several minutes, in the middle of programs that viewers prefer to be watching. It could break the concentration that is needed for worthwhile engagement with a line of argument.

- It may be possible to organize a new generation of televised scientific advertising in creative ways, so that it genuinely provides valuable information without intruding (as commercial advertising does) in the middle of programs that viewers prefer to be watching. For example, advertising could be organized, scheduled, and announced an advance - so that, for example, anyone interested in new products related to electron microscopy will know to watch from 8:30 to 9:00 next Monday night. Or that all engineering companies seeking to hire new graduates in a certain field will have 15-minute videotapes about their firms and employment opportunities from 7:30-8:30 each evening during the second week of October.

Advertising opportunities will tend to favor certain economic interests or countries - those who already can afford large advertising budgets.

- It would be desirable to have special rules to limit the risk of dependency (the possibility that the network's budget and survival becomes dependent upon any small set of large advertisers).

- Advertising on scientific channels may stimulate innovation by providing information about new products more directly and efficiently. The goal of supporting innovation might justify special rates to allow small start-up companies to reach a worldwide audience quickly, and at a far lower price than currently is available.<sup>4</sup> Given this goal, special attention might be given to provide an ease of basic access to advertisers from Russia, Eastern Europe, and the Newly Independent States with severe restrictions on access to foreign currency, or from the Third World.

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<sup>4</sup> E-mail addresses could accompany ads, providing advertisers a rapid and attractive method to receive and process requests for additional product information and to receive orders.

