the market is built, push to internationalize an interface or encoding as an open standard to promote rapid acceptance. The word "open" has significant market cachet, and "open standard" means more when a respected standards organization owns the standard.

- If the targeted market is government, then there is the additional benefit of international open standard status – important for sales to governments in US, Canada, Europe that have policies and regulatory mandates and acquisition preferences that favor open standards.
- After the start-up phase, a company may seek to be bought out by another company, buy another company or buy additional technology. In these cases, open standards can create opportunities and keep options open.

The development and use of standards does not require members to give up intellectual property or trade secrets. The use of open standards to connect components, applications, and content allows a "white box" view on the components' functionality and interfaces without revealing implementation details. This fulfills both the industry requirement for protection of intellectual property and the user requirement for transparency. Such transparency supports both interoperability and the credibility of the enterprise or federated solution.

Policy on Intellectual Property

The OGC offers its standards free of charge to all organizations worldwide and adheres to a rigorous process to ensure that the standards remain free of royalties for use. The OGC strongly supports royalty-free standards, a position also taken by the World Wide Web Consortium (W3C) and other major consensus standards organizations. The OGC's position is that these consortia and geoprocessing standards play a major role in maintaining a free and open Web.

Participate in the OGC

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The OGC® – Value through Open Standards

The OGC is a not-for-profit international voluntary consensus standards organization. The OGC's core mission is to develop standards that enable interoperability and seamless integration of geospatial information, geoprocessing software, and geospatial services. OGC members' higher order goals, however, are to rapidly solve business issues, accelerate technological advancements and deployments, stimulate economic growth or desirable societal change, discover new business opportunities and enable new business models. The members have often stated that networking in the OGC has huge value in terms of meeting customer needs, forming open communication channels between buyers and sellers, and in forming long-term partnerships.

Advantages for Technology Consumers

Technology consumers who are OGC members can:

- Voice their interoperability needs directly to a broad and global industry, academic and government community. In the OGC's Standards Program and Interoperability Program, vendors, integrators and platform providers build interoperability interfaces and encodings far faster than is possible with traditional system integration contracting.
- Pool both requirements and invested resources with other technology users. These investments bring a very high return on investment: 3:1 for every \$1 invested in OGC testbed projects.
- Employ OGC programs as a form of technology risk reduction. The time and cost of participating in the development of standards that enable "loose coupling" of different vendors' products is far less than the cost of customized integration projects that lock users in to specific products and approaches. Small resource investments by technology users in the OGC's consensus processes often result in vendors' willingness to address and then broadly implement OGC standards in their products.
- Use the OGC process for procurement reform. Users benefit first by expressing their interoperability requirements in the OGC standards development process, and then by adopting procurement language that calls for OGC standards in the geospatial and location-based services products to be considered for purchase and deployment.
- Introduce their user perspectives and work with other users in the OGC process to demonstrate the need for and potential market appeal of new standards. This reduces technology risk because there are more stakeholders investing in the process and the eventual standard that is

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produced.

• Support the needs of community members, partners and stakeholders who want open standards but who may not be in a position to participate in standards development.

Once open standards have been developed and implemented in products and services, technology consumers can:

- Reuse their geospatial software or content in multiple projects and across multiple departments or across the enterprise. This means that they invest less overall and also less frequently, reducing costs for each new user or project. This is often cited as the single greatest benefit from deploying standards-compliant products or solutions.
- Leverage existing investments in legacy content and applications. Standards help companies and agencies leverage IT investments and create liquidity. Put another way, a critical benefit of using standards is revenue enhancement as opposed to direct cost savings. Standards provide a platform for realizing opportunities that would otherwise remain hidden.
- Mobilize new technology solutions quickly and adapt easily to the rapidly changing information technology world, policy changes, and new and emerging user requirements. Choices made today don't limit the choices an organization can make in the future. Also, solutions can connect to internal departments and external partners that made different technology choices.
- Maximize the return on their current and future technology investments, while reducing the time and cost of integration. Solutions can involve multiple best-of-breed hardware and software components.

Advantages for Technology and Content Providers

Technology and content providers work together in the OGC because they recognize that a lack of interoperability is a bottleneck that slows market expansion. They know that interoperability enabled by open standards positions them to both compete more effectively in the marketplace and to seek new market opportunities. The sum of marketstimulating community innovations in the OGC far exceeds what any single vendor could create.

In the OGC, technology and content provider members:

- Drive technologies that bring value to their businesses. Instead of being a passive consumer of standards developed by others, an OGC member can become an active force in defining future technologies, ensuring that they align well with the member's business goals. Not participating can result in larger costs later in migrating to standards developed by other companies – standards that may not align well with business requirements.
- Position themselves early to influence the definition of new open

standards, preparing their companies so they are ready when the standards are approved.

- Free up resources from interface maintenance to focus instead on higher-value development projects.
- Develop standards that meet customer and market requirements to integrate and leverage the value of geospatial data available from different systems and data sources. This helps provide customers with more comprehensive decision support capabilities.
- Develop successful, revenue-generating products and services based on the enabling technologies defined in standards, and do this quickly to address emerging opportunities and market needs. Taking a leadership position in development of useful standards-based technologies can help to create the markets for those technologies.
- Find and reassign skilled developers more easily.

Integrators and solution providers can:

- Deliver solutions more quickly and at lower cost.
- Enter new markets in which OGC standards are specified.
- Mobilize a range of products across open interfaces, rather than performing resource-intensive custom integration.

Established companies with IR&D funds dedicated to helping government customers can reduce the risk associated with customers' anticipated resistance to proprietary solutions. Many start-up companies face different challenges, both near-term and later as their businesses mature. Company founders, angel investors, venture capitalists, and companies looking at buy-outs or IPOs should consider these points:

- OGC membership can help companies avoid intellectual property and anti-trust concerns. Because members sign IPR agreements that ensure OGC standards are not burdened by patents, and because trade association and anti-trust collusion rules are part of the contractual basis for collaborative development, important parts of a start-up's technology architecture can be quickly and safely developed, with help from others, in the consortium process.
- Companies can use the consortium to help them rapidly create new technology or to repurpose existing technologies to broaden markets for new ventures. This improves their ability to invade new market space quickly. Many OGC standards, such as the Sensor Web Enablement (SWE) standards, Open Location Services (OpenLS), Open GeoSMS and GeoSynchronization provide platforms that are ripe for re-purposing in new business models. Membership puts innovators in contact with the newest developments and provide valuable market intelligence.
- Companies can introduce an interface or encoding, built on OGC standards, as a new OGC standard. This is what Google did with KML to help establish a common API for Web mapping services. New ventures can create capability, develop proprietary interfaces, and, as

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