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The Sustainable Innovation Association (SIA) as a tool for cities, and a function for AOI's.

Parallel session 1:

Innovation through a prism

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Theme:
Plenary Session 2 - New tools and functions for cities and areas of innovation (AOI).

Title:
The Sustainable Innovation Association (SIA) as a tool for cities, and a function for AOI's.

Abstract:
In the way that IASP connects a myriad of cultures and disciplines and fields together to develop new science and innovations. Sustainable Innovation Associations (SIA's) should be formed in collaboration with industries, municipalities and governments to act as liaisons and connectors between its network of vetted solutions/technologies, and the people and projects who need them around the globe.

Text:
An obstacle in the arena of "problem solving" is that often the ones trying to find the answers only have one looking-glass to peer through; A point of view built from their personal experience and expertise. Especially in the worlds of academia, science and technology. These areas are ever increasingly full of experts, and despite the immeasurable need and value of specialists, they are often to one extent or another limited in the breadth and range of their expertise. Hence their classification as specialists.

In itself, being surrounded by specialists is not a bad thing at all. It's simply that many technologies are misapplied, or worse yet, not applied at all due to lack of effective exposure. The SIA will facilitate that exposure and take advantage of the results of cross disciplinary pollination. For example, how in recent years, tools and solutions in the video game design industry are leaking into the world of finance, as well as genetics and the sciences where they are solving problems related to data visualization/handling that were until then being frustratingly tolerated to one extent or another. These unrelated fields coming together will undoubtedly will accelerate the speed at which research can be done, and as a result, numerous diseases and disorders are undoubtedly going to be cured sooner than they would have otherwise. It took someone with a foot in both worlds to even imagine that the rendering engines and equipment he used as a game designer could accomplish the tasks his friend at University studying genetics was working on much faster. Together they designed an incredible genetic sequence visualization program. If they had not already been friends by chance, who knows if those two minds would have connected, and if their innovation would have been born.

Since most modern organizations are composed primarily of specialists, each with their own relatively narrow area of expertise, its overall mission needs to be very clear. It's quite natural for specialists to follow and focus on their own specialty rather than apply their ability to the common task. Often, they can lean towards defining "results" in terms of their own specialty and impose their own values on the organization as a whole. It is only a focused, common mission that can keep any organization together and enable it to progress. Without such a focused mission, any organization will before long lose credibility as well as relevance. The SIA's focused mission is to identify sustainable solutions and connect them with the people who need them, allowing innovators to spend their energies on their own focused mission (innovating) rather than on marketing and pitching.

As understandable as these conditions and realities are, they do result in critical blind spots. The resulting gaps in awareness and access can lead to serious wastes of time and resources. Often, ideas or solutions have to be entirely reinvented because an existing one cannot be located and implemented in time, or no one is aware of its existence at all. In the worst cases, important decisions can be made, based upon incomplete or incorrect information, resulting in real world consequences.

The Sustainable Innovation Association (SIA) will be a flexible organization devoted to having its feet in many worlds, so that it can quickly connect problems to solutions, without being so specialized as to limit its potential scope of vision.

The myriad of changes that affect a body of knowledge most profoundly do not generally come out of its own arena. Often times, as IASP knows better than most, the solution to problem A in industry A,

can often be the solution to problem B in industry C etc. The biggest challenges to the railroad did not come from changes in railroading but from the advent of the automobile and the airplane. The pharmaceutical industry is being profoundly altered by ideas and information coming from microbiology and genetics. Merely 40 years ago, most biologists had not even heard of those fields. That said, knowledge itself is not power, it is the application of knowledge that moves mountains, feeds the starving, and heals the sick, and propels mankind into the stars.

Having access to the right ideas and information at the right times is critical for productivity, and to avoid inefficient work processes that can bleed money from any organization.

Another hurdle for innovation is that often those with the resources do not wish to devote significant time or capital on developing solutions that could potentially miss their mark. The SIA will build its "roster" entirely of projects that have been tested/proven/vetted and are determined ready for real world application. Utilizing an agile methodology to aggressively focus its energies on getting solutions from the lab/workshop/incubator, into the field where they can prove themselves and their efficacy and solve problems.

Within any organization there are certain internal walls. Such obstacles as basic as personality conflicts, inflated egos, fear of change, burdensome bureaucracy and even downright corruption. By creating an organization that is not particularly attached to any individual project, the SIA can be an objective entity focused only on what ideas are best, not simply the most popular. The best ideas don't always evolve out of the c-suites, or come from those with the most pedigreed credentials, the SIA would be looking for ideas, and filtering them based on merit and usefulness and applicability. Whether the innovation is that of a janitor or a CEO should not be a part of the equation. Inclusive, but discerning.

One analogy of the SIA's primary function is how talent agencies in Hollywood find the best actors for films. The SIA will seek problems all around the world with one eye, while with the other one identifying inspiring solutions from amongst the global body of AOI's and Science Parks, as well as individual innovators and smaller entities that might have otherwise never seen the light of day. Connecting the dots between problem holders, and those with the sustainable solutions. In this way, the SIA will be a tool for innovators and tech companies and offer a valuable resource/outlet/role for innovators, tech companies, and science parks and other AOI's. The Sustainable Innovation Association, and its many field offices will offer a much-needed bridge between today, and tomorrow.

Finding these seemingly unrelated connections/use cases and putting knowledge to work will be the primary focus of the research centers of any SIA office. The other half of the equation of course is the identification and understanding of the problems facing its own community, and a strong ability to prioritize based on which projects will have the greatest positive effect, for the greatest number of people, in the most appropriate timeframe.

In its ideal incarnation, an SIA would be actualized as a hub, with many regional field offices worldwide. The regional SIA offices could be as large or small as needed, very lightweight teams in most places. Their goals would be to network with members of the industries and economies in their regions, organize and attend events where their community's influencers and innovators gather, cultivate relationships with a balanced combination of people with resources, people with connections, people with problems, and also with the local "maker" communities and universities.

Not only will these regional offices be the point of contact for people seeking solutions in their areas, but they will act as liaisons between their regional or national governments and the larger body of the SIA. As metaphor, one could think of science parks, inventors and innovators as farmers. The IASP could be seen a co-op, where the farmers share ideas and tools and collaborate. The SIA would be a research, marketing and distribution powerhouse that connects the farmers and their products to markets both locally and internationally that want what they are growing.

The SIA will not be focused on the creation of any one product or technology but shall be focused entirely on being a connecting force.

By organizing and leveraging the individual powers of independent thinkers across many industries, we can illuminate and cultivate paths to effective, sustainable solutions to humanities greatest challenges.

Although the SIA will maintain a flexible approach to each project, one possible model for funding projects could be thus:

A "client" presents a problem facing their community, the local SIA office would connect with the larger body of the SIA to search for known solutions that are available for them. Once one is identified, the client pays 50% of the expenses required to implement it, the SIA/technology provider will fund the other 50% (this expense is divided based on the arrangement between the SIA and the technology provider). If the project is successful in solving the problem, the client will refund the SIA/Technology provider for their 50% of the implementation expenses. The client benefits by having its problem solved, potentially creating jobs, and revenue streams in the process, and only having to risk 50% of the cost initially. The technology provider benefits by having the opportunity to implement and demonstrate its innovation(s) in a real-world scenario, locking down a client/customer for itself, and they only have to commit .5% to 3% IP ownership/equity and invest some amount from 1% to 50% of the initial costs depending on their contract with the SIA. If the project is not successful in solving the clients' problem, client does not refund the 50% of the implementation expenses to the SIA/Technology provider. This motivates the SIA to be incredibly discerning and thorough when investigating innovations for its roster, and also motivates technology providers to not become engaged unless they truly feel ready to perform and succeed.

An organization thus described could be initially funded through a variety of channels. Facilitation fees, membership fees, government subsidies, charitable donations from institutions and individuals, and by acquiring small (0.5% to 3% generally) percentages of IP ownership of the projects launched through it.

The SIA process could be divided into 5 steps. To illustrate, *here's a hypothetical:*

Step 1. *A problem is identified by a regional government, in this case a major storm blocks an important shipment of agricultural goods from a port surrounded by notoriously choppy seas. As a result, the tons of product are going to rot in containers at the port for lack of transportation. Meanwhile, there are nutritional shortages amongst the local communities.*

Step 2. *The local chapter of the SIA is notified of the urgent issue. Its research division quickly searches its database network first for food preservation solutions, to see if there could be some way to preserve the product without spending too much on the preservation, and without excessively sacrificing nutritional quality.*

Step 3. *The SIA Identifies a small company, producing an all-natural sustainable proteomic dehydration technology that preserves 100% of the nutritional content, while still being economically feasible. The SIA will have already vetted the tech and its creators. The technology provider is introduced, and a feasibility study is performed if necessary. If it passes muster, it's implemented by the problem holder, or introduced to the regional government for a pilot/demonstration. If appropriate, a plan would then be devised for implementing and operating the dehydration technology for the preservation of the foods in those containers, and/or foods in future similar situations on a wider scale.*

Step 4. *The technology provider would then facilitate the setup of the drying technology at the port and train the staff to operate.*

Step 5. *Problem is solved. A new sustainable technology is demonstrated in the real world, jobs are created, it enables inventors etc. to demonstrate their solutions capabilities in the real world. All the while, converting waste into abundance.*

In the world today, a community facing that problem would likely turn to its transportation experts, or food storage experts, one might not have thought to look into the field of proteomics. That's where the SIA would bridge the gap, connecting seemingly unrelated dots to solve seemingly impossible problems, in faster timeframes.

Not only could problems be addressed sooner, but more of the sustainable innovations that exist only in the realm of potentials could be put into the real world to solve real problems for real people. The adoption rate for innovations can be accelerated once they have been utilized by larger institutions and having a trusted organization on hand to deliver proven and applicable technologies quickly and appropriately when the need arises is priceless.

The IASP would be a critical resource for the SIA's, as a direct line to the most forward thinking and advanced science parks and innovation areas in the world, with its vast network of creators and thinkers, and doers, and solvers. The SIA would serve as a conduit through which the innovations birthed amongst its membership and associations could be channeled efficiently into real world use. All the while helping people worldwide to prosper, transforming local problems, into global solutions.

The general structure of a Sustainable Innovation Association (SIA):
(ALSO SEE ATTACHED ORG CHART)

+Office of the President
President and Chief Executive Officer
Chief of Staff
Role: Guide the overall development and vision of the SIA. Grow new connections with governments and organizations worldwide to further the cause of international cooperation and sustainability.

+Office of Strategy, Policy, and Operations
Director
Associate Director
Role: Design and implement internal efficiency improvement strategies. Craft sound corporate policy, and curate the administrative environment and approach. Guide the culture of management in the SIA.

+Logistics
Senior Vice President of Logistics
Director
Associate Director
Role: Coordinate and facilitate the A to Z movement of people, technologies, and projects around the globe, from wherever they are, to wherever they are needed. This will obviously be a critical department operationally.

+International Relations and Communications
Director of International Relations and Communications
Associate Director of Communications
Role: Facilitate all communications between departments and projects. This involves a fair amount of translation and requires cultural understandings of all the areas in which we do work. This is also an operationally critical Dept.

+Global Solution Dispatch
Director

Associate Director
Role: Receives requests for solutions from field offices, opens client cases, and forwards them to the appropriate research teams.

+Macrocosmic Studies
Director
Role: Monitor the ongoing results and impact of the SIA's work globally. Perform high level meta-analysis of SIA projects and follow-up reports.

+Media and Marketing
Director
Associate Director
Role: Create the "brand" of the SIA, guide the overall style and tone of media. Ensure quality and poignancy of content being created and constantly ensure that the message of the SIA is being communicated clearly, beautifully, and directly.

+Safety and Security
Director
+Finance
Role: Provide for the general security and safety of all SIA personnel, projects, facilities, and that of our clients and collaborators as appropriate. As well as safeguarding the preservation of the communities and environments in which we become involved (in regard to our works).

+Finance
Director
Associate Director
Vice President and Chief Financial Officer
Role: Collect and analyze financial data for the organization, and report to the Office of the President to ensure the resources are always available to make sound fiscal decisions for the organization. Of course along with the usual tasks expected of any organizations' finance dept.

+Legal
Vice President, General Counsel and Corporate Secretary etc.
Role: Drafting and evaluation of contracts, navigation of international law, legal defense when needed, and IP work for network members. Ensure the SIA's actions and efforts are always done lawfully. Keeper of records for the SIA.

+Information Management
Director
Associate Director
Role: Collection, organization, distribution and overall management of the vast troves of data related to SIA activities. From project proposals and technology evaluation notes to media content, and internal records. [Considering uses of decentralized database/ledge/blockchain.]

+Human Resources
Director
Associate Director
Role: Ensure the wellness of all SIA team members. Coordinate the hiring and training of team members. Maintaining the SIA's culture and morale.

+Personnel, Training, and Health
Director
Associate Director
Role: Ensure that every member of the SIA has the resources they need to succeed in their role, and

maintain a healthy lifestyle.

+Talent Acquisition Programs
Director
Associate Director
Role: Bringing in new Researchers and Inventors and Innovators.

+Research and Analysis
Senior Vice President of Research
Vice President of Interdisciplinary Communications
Director of Research Operations.
Role: A collective "Hive" of technology hunters, analysts and master generalists working together to identify technologies that have great potential to effect change, verify their efficacy and functionality. Develop relationships with the innovators and companies and other solution holders. Respond to the Global Solution Dispatch and connect the dots.

+Center for Environment and Sustainability
Director
Associate Director

+Center for Communications and Information Technology
Director
Associate Director

+Center for Governance and Policy
Director
Associate Director

+Center for Infrastructure and Housing
Director
Associate Director

+Center for Water, Agriculture, and Food
Director
Associate Director

+Center for Health
Director
Associate Director

+Center for Education
Director
Associate Director

+Center for Defense and Security
Director
Associate Director

The SIA will not require extraneous capital to get off the ground. Most of the requirements of the SIA initially will be informational. In its earliest days, IASP and other organizations who have curated amazing networks would be asked to submit the truly viable/feasible projects they are privy to amongst their networks. Much of the early focus will be on collaborative discussions amongst the

research directorate, to initially determine the foreseeable range of applicability of the projects it covers. Then determining which of the projects identified as “ready”, will be able to best solve the issues presented by the “clients”. To obtain its first clients, the SIA will be contacting regional governments, industrial organizations, academic institutions, and NGO’s especially in geographical areas that have experienced natural and other disasters and need help now rather than later. From day one, the goal will be to take responsible action to address real world problems in real world timeframes.

As it grows from its functional grassroots origins, and takes on bigger challenges, acquires more experience and knowledge, and discovers new ways to apply it, the SIA shall maintain its perspective by including minds from across the generational spectrum. Over time, certain working styles/skills are fading into extinction, such as designers who can go measure a facility or component by hand, and then translate it into a real-world schematic with a pen a paper. With the advent of so much technology to fill these gaps in contemporary knowledge, it further accelerates the disappearance of those skills from the workforce. By continually integrating the working wisdoms of our elders, we can preserve important perspectives and tradecraft from disappearing altogether. Learning from the past, rather than overwriting it.
A perfect example is in regard to materials such as industrial hemp. Once it was the miracle crop used for everything from the sails and rigging aboard navy vessels, to the uniforms worn by soldiers, to the paper used when drafting the United States Declaration of Independence itself and even automobile body panels by Henry Ford. Eventually certain industries (paper, lumber, steel etc.) realized that hemp products could potentially take a bit out of their market share, so they lobbied government relentlessly, even producing Hollywood films to poison the public’s mind against hemp by connecting it to it narcotic cousin. Until finally hemp was placed on the list of controlled substances, despite its non-narcotic nature. It’s only in the past few years that American farmers have been able to research, cultivate, or produce this crop, and the first place the smart ones went for pointers was old farmers, and farmers almanacs from the era when hemp was legal. Now, thanks to this great resurgence in old, and even ancient knowledge about the hemp plant, innovations are coming to light day after day such as structurally viable, 3d printable hempcrete, hemp-based supercapacitors that out perform their lithium ion contemporaries, and many more. Often indeed, the wisdoms of the past, combined with the technologies of today, create the solutions for our future.

In Conclusion:
Many people have written of the greatest innovators in history as being ahead of their time. It is true that many great innovations were only fully appreciated years after their creators’ deaths. Nikola Tesla for example, was until recent years almost entirely overshadowed by Thomas Edison. Not for lack of genius, but for lack of the right connections, at the right times. Imagine the world today if Tesla’s power transmission projects had become the status quo instead of Edison’s. That could have been so, if there had been an organization like the SIA in his day. By facilitating the discovery and effective dissemination of bleeding-edge sustainable solutions, the SIA’s will make being “ahead of your time” a thing of the past, for the great minds of today.

SUSTAINABLE INNOVATION ASSOCIATION