ACKNOWLEDGEMENTS

The Innovation Hub Management Company extends its appreciation to all stakeholders who participated in making this pilot project a success including all Challenge owners, solution providers and Stakeholder Advisory Committee members.

The Research Institute for Innovation and Sustainability (RIIS) is acknowledged for their role in this pioneering project and their contribution in terms of services, insights and capturing of data is greatly valued.

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Cover photograph: Johannes Vogel www.blackjohannes.co.za
Design by: www.e visuals.co.za
**ADJACENT INDUSTRY BENEFITS**

The Open Innovation Solution Exchange leverages its diverse networks to identify solutions in adjacent industries and unexpected places. In this way the platform addresses previously intractable problems not solved by traditional suppliers or R&D partners.

**NEUTRAL PLATFORM**

As a public entity, The Innovation Hub seeks to be the catalyst of innovation in Gauteng. It has launched the Open Innovation Solution Exchange platform as a multi-stakeholder platform to connect innovators with solution seekers from all sectors, through a trusted mediation process. By using a web-based platform industry and government needs are made visible and accessible to innovative entrepreneurs.

**INTELLECTUAL PROPERTY**

The platform provides a managed, efficient approach to engaging with large numbers of potential solutions, whilst ensuring the protection of intellectual property on both sides through a rigorous, proven methodology.

**VALUE-ADDED SERVICES**

The Innovation Hub provides funding, intellectual property, incubation, project management and soft landing services which can accelerate the development, acquisition and integration of innovations identified through the platform.

**PROCUREMENT OF INNOVATION**

The platform can be integrated into existing supply chain processes to support the managed procurement of innovation, especially relevant to government departments and state-owned enterprises.
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1. EXECUTIVE SUMMARY

A NEUTRAL OPEN INNOVATION INTERMEDIARY FOR GAUTENG

A number of major industrial and public sector players in Gauteng have been experimenting with OI as a mechanism to improve their competitiveness and effectiveness, building on a global movement towards OI as an essential business practice. As the main innovation intermediary in the Gauteng Province, The Innovation Hub recognised a need to consolidate this interest in OI and establish a neutral OI platform that can support a critical mass of innovation exchanges between solution seekers and solution providers.

Gauteng is the heart of South Africa’s economy and has a treasure chest of knowledge capital, which is fertile ground for job creation, improved competitiveness and economic growth. For this reason, the objectives of the Gauteng Employment, Growth and Development Strategy (GEGDS) as well as the Gauteng Innovation and Knowledge Economy Strategy (GIKES) have been to improve competitiveness in Gauteng and efficiency in service delivery, and to promote sustainable livelihoods and the quality of the lives of our citizens. GIKES is set apart from other provincial or regional innovation strategies through its focus on OI.

LEVERAGING GAUTENG’S KNOWLEDGE RESOURCES

OI seeks to solve problems through utilising knowledge capital (innovative ideas and products) outside organisational boundaries, by inviting individuals and entities external to the organisation to innovate around previously intractable issues, thereby linking potential solution providers possessing niche capabilities or technologies in the same but also adjacent sectors with real problems and actual opportunities for business growth. Given the demonstrated potential of OI for driving transformative growth within organisations, and the vast potential for an emerging global city-region such as Gauteng where knowledge tends to be highly distributed and emerging entrepreneurs and innovators have been disconnected from the needs of large companies and government, The Innovation Hub embarked on an OI project for the Province.

The Innovation Hub Open Innovation Solution Exchange was launched as a web-based platform to boost the GEGDS and GIKES strategies, with the aim of stimulating competitiveness, economic growth and job creation in Gauteng. The platform leverages the openness of the Internet to create a more accessible version of the traditional Science Park, where researchers and entrepreneurs from across the Province can engage with potential clients, share knowledge, and collaborate on joint innovation projects.

GENERATING VALUE THROUGH A RIGOROUS, TRUSTED PROCESS

The Open Innovation Solution Exchange enables demand-driven innovation by publishing problems or “Challenges” defined by government departments or private companies that can be solved by other external entities and individuals. The platform also supports a technology push or “Technology Offers”, whereby innovators with unique capabilities can showcase innovative products and services to a potential market. The Innovation Hub funded the initial round of Challenges on the portal, bearing in mind that it had to demonstrate “value for money” for potential solution seekers. Thereafter, the portal’s business model is revenue based, whereby seekers fund the posting of their Challenges to the portal and providers can continue posting solutions at no cost, whilst being able to showcase their innovative products on the portal. The project was underpinned by governance structures that drew on a diverse mix of private and public sectors stakeholders from across the Province, and leveraged a C4 methodology, which implements a clearly-defined process covering the Challenge definition, Connect, Consider and Commit steps necessary for managing the exchange of intellectual property and realising tangible outcomes from an OI interaction.
**Tangible Opportunities for Innovative SMMEs and Researchers**

The pilot round of eight Challenges posted on the platform identified 84 potential solutions, with a large percentage (64%) sourced from SMMEs and 72% of the potential solutions emanating from Gauteng. So far, at least nineteen of the proposals demonstrate strong potential and were shortlisted for further engagement by the Challenge owners. The maturity of solutions represented a diverse mix along the continuum between concept and commercial availability, with the majority (38%) in the concept stage and 31% of the potential solutions in the commercial stage. Most of the Technology Offers were in the prototype stage (39%) with innovators seeking co-development partners, although few of these received expressions of interest (26%). These relatively early stage, prototype technologies developed mainly by local SMMEs and researchers reflect a strong but under-exploited potential in the Gauteng innovation system that can be leveraged for the benefit of government and private companies. The Innovation Hub plays an important role through its product and business incubators in supporting the development of these emerging technology entrepreneurs and the adoption of solutions by industry and government.

Through the pilot round of Challenges and Technology Offers, it became clear that significant benefits can be derived from the platform for solution seekers, by connecting their previously closed R&D activity with a wide base of innovative technology partners in a relatively short time via a carefully managed process and trusted intermediary. For solution providers, a new channel was created to access the, often hidden, innovation needs and business opportunities within public and private sector organisations; as well as to align their research and development work with explicit local market requirements.

**Demonstrating Benefits for Industry and Government**

The main challenge with the OI process was to articulate its benefits to potential seekers who often have strong existing knowledge of the local innovation system, especially in their area of expertise, and who may be reluctant to expose their problems or strategic direction. It is also challenging for seekers to differentiate OI from existing procurement processes, whilst aligning with the supply chain management regulations of state entities. It became clear that OI is emerging as a practice, even within globally competitive companies, and a regional platform of this kind needs to build trust within (and amongst) seekers and providers.

A central aspect of an effective OI process - and to realising benefits for seekers - is that ‘common’ or well-known problems need to reformulated (and the recruitment campaign run) in a way that attracts innovative solutions and new partners (or novel combinations of technologies and partners) outside of the traditional supplier or researcher networks. In addition to sourcing solutions to Challenges, the process produces a number of important secondary outputs such as giving solution seekers a broad picture or landscape of technologies of interest to confirm their innovation direction. In the development of this type of regional platform, patience is required to incubate and grow the fruits of OI, which typically centre on building on a critical mass of opportunities and connections, solving real problems and demonstrating benefits for the broader economy, enterprise development and job creation.
South Africa has the largest economy (GDP) in Sub-Saharan Africa (SSA) (GPG, 2013). Gauteng has the third largest GDP in SSA and the fifth largest GDP in Africa at US$198.9 billion. IHS Global Insight reported that Gauteng contributes approximately 35% of South Africa’s national GDP (GPG, 2013). However, Gauteng’s share of economic growth (as a contribution to SSA’s GDP) has declined from 12.14% in 1996 to 9.58% in 2011.

Evidently, an objective of the Gauteng Employment, Growth and Development Strategy (GEGDS) is to build a strong and sustainable inclusive Gauteng economy in order to reverse the downwards economic trajectory. For this reason, the vision of the GEGDS is to develop “An inclusive and sustainable Gauteng City Region that promotes a developmental and equitable society” (GDED, 2009-2014, p. 4).

The Innovation Hub is a leading science and technology park, and a subsidiary of the Gauteng Growth and Development Agency (GGDA), an agency of the Gauteng Department of Economic Development (GDED). The vision of The Innovation Hub is “to be the focal agency responsible for catalysing innovative solutions to the social and economic challenges of Gauteng”, and the mission is “to promote the socio-economic development and competitiveness of Gauteng through innovation” (The Innovation Hub, 2013). Besides the Open Innovation Solution Exchange, The Innovation Hub provides a number of value added services to technology companies illustrated in Figure 1 below:

Table 1: GEGDS Strategic Pillars

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transforming the provincial economy through improved efficiency (economic dimension)</td>
</tr>
<tr>
<td>2</td>
<td>Sustainable employment creation (economic dimension)</td>
</tr>
<tr>
<td>3</td>
<td>Increasing economic equity and ownership (equality dimension)</td>
</tr>
<tr>
<td>4</td>
<td>Investing in people (social dimension)</td>
</tr>
<tr>
<td>5</td>
<td>Sustainable communities &amp; social cohesion (social dimension)</td>
</tr>
</tbody>
</table>
The GEGDS puts innovation at the forefront to achieve an inclusive and developmental society in Gauteng. Therefore GIKES seeks out the promotion, support and encouragement of innovation across all spheres of the Gauteng Provincial Government (GPG) (GPG, 2012). The GPG supports organisations through stimulating and facilitating interactions between organisations, universities and the public sector by means of agencies such as The Innovation Hub. One of the drivers of pillar 3 above is to provide support to SMMEs and formal businesses, which is one of the aims of the OI intervention at The Innovation Hub, described in more detail elsewhere in this case study. Thus, The Innovation Hub is not merely helping and supporting its own technology tenants to grow and expand, but essentially any SMME in Gauteng and beyond, to positively boost South Africa’s economy. A neutral, non-proprietary platform, such as the Open Innovation Solution Exchange, can be the OI platform of choice across industries and be able to elicit cross-industry innovations, thereby helping to stimulate growth for Gauteng and South Africa.

GIKES aims to “accelerate innovation in all its forms, in order to bolster and support the broader strategic objectives of employment creation, and sustainable social and economic development” (GPG, 2012, p. 4). Taking into consideration that innovation can drive economic growth; this strategy is set out to underpin the GEGDS strategic pillars (Table 1) in order to enable the Gauteng Province to achieve its objectives. One thing that sets GIKES apart from other innovation strategies is that GIKES places a strong emphasis on social innovation and OI specifically to align to the GEGDS’ inclusive economic focus. The three strategic objectives of GIKES, fully aligned with the GEGDS strategic pillars (Table 1), are listed in Table 2 below (GPG, 2012):

TABLE 2: GIKES STRATEGIC OBJECTIVES

<table>
<thead>
<tr>
<th></th>
<th>To improve the competitiveness of the Gauteng economy, in particular a set of identified strategic sectors (“Economic Competitiveness”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>To improve the efficiency of the public sector in delivering services (“Public Sector Efficiency”)</td>
</tr>
<tr>
<td>3</td>
<td>To promote the sustainable livelihood and quality of life of citizens within the Gauteng City Region (“Community-led Innovation”)</td>
</tr>
</tbody>
</table>

In order to be competitive, to improve efficiencies and promote the quality of life of citizens, the Innovation Hub asserts that solutions to problems do not necessarily lie within an organisation (in particular, the R&D division); customers, suppliers, employees and citizens might also be potential sources of innovation.

In an increasingly competitive and volatile world, organisations are looking for ways (and sources) to increase their returns and are compelled to be more innovative and thus outsmart their competition or create new markets for their products and services. Over time organisations have reaped the benefits of external information (and knowledge) used as input to their innovation process, but in today’s unpredictable environment the balance of external input to the process has increased for many organisations through the adoption of OI. Organisations started to practice a more open form of innovation by not merely relying on their internal innovation capital, but looking externally for innovations to solve problems or leverage opportunities. This form of innovation, although not recent, was coined “open innovation” by Chesbrough in the early 2000s, who advocated a more purposive strategy to opening up for innovation purposes. The global knowledge economy has changed the manner in which organisations access knowledge for innovation purposes and increasingly, organisations choose to access knowledge from diverse markets and sources across the globe and are thus opening up to a greater extent. The Innovation Hub is poised to become the innovation catalyst of choice to help organisations open up and tap into diverse markets to reap the benefits of OI through the Open Innovation Solution Exchange.
3. OPPORTUNITY

The opportunity is for The Innovation Hub to bolster the strategic objectives of the GEGDS (Table 1), which include the strongly aligned GIKES objectives (Table 2) and thus help organisations reap the benefits of OI to be more competitive and grow in the process. When The Innovation Hub was originally established, the perception was that The Innovation Hub’s focus was more on infrastructure and facilities and not so much on innovation programmes such as this pilot study; “This OI project is therefore another opportunity for The Innovation Hub to reposition itself with a focus on innovation at the core of its delivery, in order to support Gauteng to maintain its position as a smart province and a gateway to the rest of Africa” (Sibanda, 2013). Considering the position of The Innovation Hub and its strong ties with the global science park network, there is a strong foundation to strengthen entrepreneurial activities and to provide value-added services. Not only does The Innovation Hub support its tenants, but it also contributes to the creation of business opportunities for SMMEs and larger businesses in Gauteng and in the greater South Africa. The Innovation Hub is a catalyst for developing and strengthening relationships between government, SMMEs, universities, research institutions and larger organisations (multi-helix relationships) through exchanging and showcasing solutions (products and services). The Innovation Hub Open Innovation Solution Exchange will balance supply and demand in creating opportunities for organisations, SMMEs, research institutions and universities to grow through the development and commercialisation of innovative products and services, whilst helping public and private entities solve real problems or leverage opportunities. Thus, the Open Innovation Solution Exchange is an opportunity to create an enabling environment for a competitive and growing Gauteng economy.

4. OPEN INNOVATION SOLUTION EXCHANGE

4.1 Open Innovation

Chesbrough (2003, p. xxiv) defines OI as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. [This paradigm] assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology”. Some core principles of OI include “Not all of the smart people work for us so we must find and tap into the knowledge and expertise of bright individuals outside our company” and “We don’t have to originate the research in order to profit from it” (Chesbrough, 2003, p. 38).

There is a paradigm shift in how organisations commercialise knowledge from “Closed Innovation” to “Open Innovation”. Closed Innovation is a view that requires organisations to control the process of innovation internally within the organisation. Consequently organisations are forced to generate their own ideas and then develop, build, market, distribute, service, finance, and support them on their own. This paradigm council firms to be strongly self-reliant because one cannot be sure of the quality, availability and capability of others’ ideas. Yet, this approach is not sustainable any longer, and for this reason a paradigm shift to OI is emerging, whereby organisations are not only using external and internal ideas but also external and internal paths to market to advance their technology. Organisations can also take internal ideas to the outside market through external channels in order to expand revenue channels which provide further opportunities for organisations to enable sustainability. Some of the top international organisations that practice OI include GE, LEGO, Philips, General Mills, Unilever and Shell (Lindegaard, 2013).

Organisations and intermediaries pursuing OI often leverage focused innovation through innovation contests; an externally focused innovation contest can be defined as “a (web-based) competition of innovators who use their skills, experience and creativity to provide a solution for a particular contest challenge defined by an organizer” (Bullinger, Neyer, Rass and Moeslein, 2010, p. 291). A web-based platform enables seeker organisations to broadcast challenges to online communities, thereby drawing out potential innovators that are able to solve problems or leverage opportunities. In addition to this, a web-based platform becomes a means for smaller organisations or research institutions to show-case their innovations to tap into different markets or to attract partnerships to take immature products to fruition. It thus allows for demand pull and push to enable growth in Gauteng and the greater South Africa.
4.2 A Provincial Open Innovation Platform

The Innovation Hub, in partnership with the City of Tshwane (CoT) and Research Institute for Innovation and Sustainability (RIIS), established the Open Innovation Solution Exchange, a web-based portal that connects innovators (solution providers) to organisations or governmental entities (seekers) who seek innovative solutions to solve problems or leverage opportunities (see Figure 2).

The Innovation Hub is a neutral intermediary that manages the OI process to facilitate the linkages between solution seekers and providers, tackle service delivery issues in government and increase competitiveness of the private sector whilst being an accessible position to provide value-added services as depicted in Figure 1. The Open Innovation Solution exchange encourages researchers, innovators, entrepreneurs, SMMEs and larger organisations to respond to innovation Challenges posted on the platform by submitting their solutions or alternatively showcasing their innovations.

Challenges posted on the platform (by seekers) will originate from either public or private sector organisations (or entities) in Gauteng. The Challenges and solutions (or technology offerings), across sectors and industries, can be posted on the platform by anonymous or named providers and seekers (Burger, 2013).

The major stakeholders can be categorised into solution seekers, solution providers and the neutral mediator The Innovation Hub, which facilitates and manages the portal solution space and campaign. The portal encapsulates both demand pull and technology push, considering that a Challenge is posted (by a seeker) to solve a problem (demand pull), whereby a solution provider could attempt to solve the problem (provider) and also to showcase existing innovative products or services (technology push).

The platform embeds a process which enables solution seekers to define a problem at the lowest level, in order to elicit solutions from across different industries; to launch an online and offline campaign to attract innovators across these industries; and for providers (or innovators) to register and post their solutions on the platform. The Innovation Hub will facilitate and coordinate the solution review and selection process but will take a backseat during the contractual negotiation and drafting process. Whilst contractual negotiation and agreements will take place between the seeker and the provider The Innovation Hub may be called upon to provide value-added recommendations and advice on many issues including IP.

A critical success factor is to define a problem in a manner so as to enable the sourcing of solutions divergent from the problem domain which often sparks radical innovations. In fact, research has shown that valuable breakthrough products could originate as a result of technology brokering, where ideas and concepts from one industry are applied in another unrelated industry. An idea from Industry A, a product from Industry B and a concept from Industry C could all be ingredients to create a breakthrough product in Industry D.

GGDA CEO, Mr Siphiwe Ngwenya notes that the Open Innovation Solution Exchange project is a step towards cementing Gauteng’s position as a smart province and that the platform has a great potential to stimulate demand-led innovation, enhance competitiveness and accelerate enterprise development in Gauteng in support of GIKES (The Innovation Hub, 2012). Furthermore, Mr McLean Sibanda, CEO of The Innovation Hub, maintains that the Open Innovation Solution Exchange is a unique mechanism to advance innovation, competitiveness, economic growth and job creation and is poised to improve service delivery by government and productivity in the private sector (The Innovation Hub, 2012).
4.3 Business Model

The Innovation Hub has funded the development of the Open Innovation Solution Exchange as well as the cost for seekers to post Challenges on the platform during the pilot phase of the project. The Innovation Hub is a non-profit entity and needs to recover the costs of running the platform once the pilot has been concluded. The generally accepted business model for OI is that an intermediary (such as The Innovation Hub) would manage and facilitate the OI “seek and supply” process at a set unit fee per Challenge (that the seeker pays), regardless of whether a solution was found (Figure 3). Once a solution provider has posted a solution and successfully matched the Challenge, there will be a contractual and commercial arrangement between the provider and the seeker, which is determined on a case-to-case basis. This arrangement is solely between the seeker and provider and excludes The Innovation Hub.

The core of the model is to provide a solid value proposition in order to support GIKES and GEGDS strategic objectives as set out in Tables 1 and 2. The platform is improving competitiveness of the Gauteng economy by providing an enabling environment to stimulate innovation, which is known to have a positive effect on economies.

Furthermore, the portal allows for posting service delivery Challenges, which could be solved by means of innovation. Not only does innovation support the GIKES and GEGDS strategic objectives per se, but also the enablement of collaborations and links between stakeholders, considering that The Innovation Hub enables opportunities for collaboration between SMMEs and research institutions (including universities) and larger private organisations or public entities. This collaboration may not have been possible through normal tender processes, because some of these innovations could be in the early stages of maturity and not yet a commercial product.

In future, The Innovation Hub will be exploring different variations on the OI model including leveraging social innovation to encourage citizens to solve local Challenges. In this way, innovation can be adopted as a practice at all levels of service delivery and quality of life, not merely at a high-tech level. Figure 5 elaborates on the value proposition of the platform, highlighting the value created from new connections across sectors and organisations.
4.4 Project Methodology

The project scope included the development of the Open Innovation Solution Exchange web-platform; soliciting of seekers by using existing networks (public and private); defining the Challenges; launching a campaign to find solution providers; evaluating and selecting solutions; connecting solution providers to seekers and providing a platform for showcasing existing solutions (Technology Offers). The methodology deployed was mostly Challenge-driven in that ideas (solutions) had to be aligned with specific Challenges that have been defined, although the portal also allowed for showcasing existing innovations which did not necessarily form part of the standard C4 methodology (technology push).

The C4 project methodology is depicted in Figure 5. The methodology encapsulates the definition of the Challenge brief (the problem to be solved) and publishing the Challenge on the platform. This is followed by the Connect phase where the campaign is managed, questions are handled and the actual registration process of (or connection to) possible solution providers takes place, as well as the collection of possible solutions posted to the platform by solution providers. Next is the Consider stage where the solutions are evaluated against defined criteria. Subsequent to this is the Commit phase (the contracting process, through licensing, joint ventures, product acquisition, etc.).

![Figure 5: C4 methodology](image)

It was crucial to ensure that the Challenges were defined to elicit the right solutions. Dr Paul Plantinga, the Open Innovation Solution Exchange project manager, emphasises how important it is to define a problem at the lowest level, independent of its technological domain, to elicit novel cross-domain solutions. In effect, this is one of the factors that sets OI apart from normal tender processes in eliciting solutions to problems. It is indeed a challenge to define a problem to be domain independent, yet specific enough to draw out the right solutions (Plantinga, 2013).

The showcasing of technologies (Technology Offers) is a technology push as described earlier in this case study, in that there were no specific Challenges posted against which these offers could be matched. This value offering further helps to stimulate growth in Gauteng, bearing in mind that an innovation (at different levels of maturity) can be showcased, inter alia, to help find a partner to commercialise the products, to partner with another organisation for co-development, or to help source seed funding for development of the innovation.

A challenge is a “need” that has been posed to the open innovation community through an OI platform in the form of a written brief, this is a clear, concise and compelling statement of a business need to be solved (problem or opportunity).
5. PROJECT OUTCOMES

5.1 Challenges and Solutions

The Challenges, solution seekers and outcomes of the OI process are listed in Table 3.

**TABLE 3: CHALLENGES AND SOLUTIONS**

<table>
<thead>
<tr>
<th>CHALLENGE NUMBER</th>
<th>SEEKER</th>
<th>TITLE</th>
<th>NUMBER OF RESPONSES</th>
<th>SHORTLISTED RESPONSES</th>
<th>COMMITMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH_001</td>
<td>SAPPI</td>
<td>Co-development opportunities for fine chemicals from trees</td>
<td>6</td>
<td>3</td>
<td>Ongoing</td>
</tr>
<tr>
<td>CH_002</td>
<td>Centre for Public Service Innovation (CPSI)/City of Tshwane (CoT)</td>
<td>Eliminating duplication in the dispensing of chronic medication in public health facilities</td>
<td>24</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>CH_003</td>
<td>Anonymous</td>
<td>Solution for active and intelligent packaging for fruits from fruits and vegetables</td>
<td>4</td>
<td>2</td>
<td>Ongoing</td>
</tr>
<tr>
<td>CH_004</td>
<td>Honeydew Police Cluster/ CPSI</td>
<td>Pro-active identification and reporting of crime in informal settlements</td>
<td>12</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>CH_005</td>
<td>Transnet</td>
<td>Active traffic control device to minimise the risk of vehicles entering railway crossings</td>
<td>12</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>CH_006</td>
<td>CoT</td>
<td>Alternative or complimentary solutions to prevent meter bypass on electrical connections</td>
<td>8</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>CH_007</td>
<td>Anonymous</td>
<td>Solutions to optimise the decolouring of red sorghum and millet varieties</td>
<td>10</td>
<td>1</td>
<td>Ongoing</td>
</tr>
<tr>
<td>CH_008</td>
<td>Anonymous</td>
<td>Real time testing of pesticide residue in fruit and vegetables</td>
<td>8</td>
<td>5</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

At least 64% of submissions originated from SMMEs (Figure 6). The large percentage of SMMEs is a good indication of how the Open Innovation Solution Exchange can stimulate economic growth through linking innovative SMMEs with larger public and private organisations to solve both public and private sector Challenges in Gauteng.
The limited number of responses from academic institutions (11%), may indicate the lack of interest in or capacity to respond to opportunities, or a perception that their IP may be exposed or compromised. There appears to be a strong opportunity to align academic work to imminent business and societal issues and thus enable a more demand-led focus to research. Moreover, the fears around IP issues should be eased through focused education and communication, considering that the portal also provides a technology-push opportunity for these institutions to showcase their innovations and ideas.

The Challenges that attracted the most submissions had a strong ICT orientation, such as the CPSI/CoT Challenge on medicine dispensing. Most of the responses came from Gauteng (72%), although there was some interest from other provinces, albeit limited, whilst others came from international sources (12%). Most of the submissions emanated from SMMEs (64%) as discussed above (Figure 6). The technology maturity of solutions was a balance between products (or services) still at concept stage (38%) whilst others were commercially available (31%) and a few were ready for commercialisation (18%) and prototype (13%).

Clearly, the SMMEs that submitted solutions at concept stage (and even the prototype or ready to commercialise stage) would not have been considered if a normal tender process was administered, and would have been excluded from these innovation and growth opportunities. Furthermore, it could also be a possibility that these products in the commercially available stage could have solved cross-industry problems and these growth opportunities would not have been possible if the problem was defined in an industry dependent manner.

Figure 6: Submission categories per entity type

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMMEs</td>
<td>68%</td>
</tr>
<tr>
<td>Large organisations</td>
<td>7%</td>
</tr>
<tr>
<td>Joint ventures</td>
<td>4%</td>
</tr>
<tr>
<td>Academia</td>
<td>11%</td>
</tr>
<tr>
<td>Individuals</td>
<td>6%</td>
</tr>
<tr>
<td>Consultants</td>
<td>1%</td>
</tr>
<tr>
<td>Non-Profit Organisations</td>
<td>1%</td>
</tr>
<tr>
<td>Research Institutes</td>
<td>2%</td>
</tr>
</tbody>
</table>
5.2 Technology Offers

At least 31 Technology Offers were published on the platform by the end of September 2013. Of these offers, 15 were actively sourced from The Innovation Hub community (tenants and SMMEs in incubation) and Gauteng universities/research institutions through a targeted campaign. The rest submitted offers during the open call after the platform was launched. Most of the submissions were prototypes (Figure 9) and, when considering that the most desired relationship stated was that of co-development partners (Figure 8), it is evident that the submitting entities needed partners to bring the pilots into fruition as commercial products. The majority of submitters were from the ICT industry (Figure 8). However this statistic may be skewed, considering that there was an initial targeted approach.

Only four of the Technology Offers received expressions of interest (and these have not yet translated into formal deals at the time of writing this case study). This low number may point out that technology push does not always solve real problems and that there may not always be a market need for these innovations or perhaps the novelty factor of the particular submissions was low. More analysis is needed to ascertain why the interest in these offers was so low.
6. CHALLENGES, LESSONS LEARNT AND SUCCESSES

6.1 Challenges

One of the biggest Challenges of the Portal was to articulate the benefits of OI in terms of the strategic objectives of GEGDS and GIKES and to specify how the Open Innovation Solution Exchange would translate into “money well spent”. By and large, innovation per se is not a tangible concept and explaining the operationalisation of OI, which is not a well-known concept, is a Challenge. There were also misconceptions regarding the management of IP and conceptual confusion between “open source” and “open innovation”. The perceived IP risk may have discouraged problem solvers from submitting their innovations. In the case of the Open Innovation Solution Exchange a solution provider only exposes enough about the idea or product for the seeker to show interest, following which the provider and the seeker negotiate necessary contractual arrangements and non-disclosure agreements on an individual basis. The issue of IP is an important risk that is managed well through the OI process on a case-by-case basis between the seeker and provider within the context of the solution matching the problem. The Innovation Hub can provide advice and guidance to both parties but largely acts as a neutral catalyst and does not form part of the negotiation process.

A further Challenge is the issue of long-term resourcing of initiatives such as the services on the portal and making it sustainable. For this reason, it is imperative for the Open Innovation Solution Exchange to explore different models for supporting innovation outcomes for the region, including adopting a revenue model in order to fund platform operations.

A key consideration was to differentiate the value proposition of such an open platform from a tender process, as well as the relationship to existing supply chain processes, particularly within government. The tender process is often very specific in terms of the solution that is required as defined in the Request for Proposal (RFP) and the Terms of Reference (ToR), and is not normally defined to elicit innovative solutions. A seeker request through OI strips the Challenge down to the core so as to elicit cross industry solutions which is not possible through a tender process. In fact, as noted earlier on, the most radical solutions often emanate from domains far removed from the problem domain or through a combination from different industries; which can hardly be achieved through a tender process. Yet, defining Challenges in a domain-independent manner is challenging, considering that one needs to provide enough parameters to sketch the scope of the problem, yet not limit the scope of solutions. Balancing this in defining the Challenge is indeed a challenge, and management feels that they can enhance the definition process. This goes hand-in-hand with the campaign process; the tender processes more focused on finding solution providers in the same domain as the problem, whilst innovations that are more novel could be discovered, had the “net to catch providers” been more widely spread across sectors.

6.2 Lessons Learnt

Mr McLean Sibanda, CEO of The Innovation Hub, emphasises that OI is all about relationships and that engaging in long-term relationships is where the down-stream value lies (Sibanda, 2013). Dr Plantinga asserts that “an emerging lesson is to be as realistic as possible about timelines and opportunity, and as transparent and detailed as possible about evaluations, to ensure commitment of solution providers and differentiate from a traditional procurement process”. He also believes that The Innovation Hub should be leveraging local presence and resources as much as possible, such as links to the incubator. Finally, he reiterates that building trust is central to the OI process and includes the delivery of real opportunities and demonstrating tangible results, giving feedback to all stakeholders, exhibiting professionalism and engaging in face-to-face interaction as often as possible (Plantinga, 2013).
There is a strong interest from SMMEs in seizing OI as an opportunity to make business deals. However, it is clear that some of them might not have the capacity to deliver or the luxury to wait for long periods while decisions are being made. Contrary to this, the interest from academia was relatively low, which leads to questions about how this strong resource can be better leveraged and engaged through the platform.

6.3 Successes

The pilot project instilled many successes, one of which was the repositioning of The Innovation Hub as more than merely an infrastructure and facilities provider or an incubator, but also as an enabler of connections to facilitate innovation, sustainable growth and competition in Gauteng. Not only did the Open Innovation Solution Exchange successfully match solutions to problems, but there were also unanticipated downstream opportunities for The Innovation Hub with seekers, by taking relationships forward to other dimensions apart from OI that sealed the partnerships in the first place (Sibanda, 2013). The Innovation Hub delivered a tangible OI solution to solve real societal and organisational problems and created a medium for organisations, universities and research institutions to showcase their innovations. The portal created fertile ground for taking innovative ideas forward, with the right partners, to deliver fruit that will stimulate economic growth in Gauteng.

7. CONCLUSIONS

The Open Innovation Solution Exchange pilot project brought about innovative solutions that matched real problems and provided growth opportunities for South African organisations (mostly SMMEs from Gauteng), which are the building blocks for job-creation, improved competition and economic growth in Gauteng. The platform is thus a mechanism set out by The Innovation Hub to buttress the GEGDS and GIKES. In due course, as the principles of OI become more recognised; as IP fears turn out to be less prominent and once the virtue of time is recognised, it is expected that the Open Innovation Solution Exchange will become a proven mechanism to boost economic growth through innovation in Gauteng and turn out to be the foundation of a solution to enable grass roots innovation to solve real community Challenges.


Sibanda, M. (2013). [Interview with Mr. McLean Sibanda on the 24th of June 2013].
