**ASU/Scottsdale Center for New Technology and Innovation**

**Introduction**

Arizona State University proposes the establishment of an important new economic entity and civic amenity in Scottsdale that will provide a hub in the region for knowledge-driven industries, technology innovations and commercial activity. According to a substantial and growing number of both public and private sector economic analyses, knowledge economy industries – ones created, grown and sustained primarily by highly skilled, well educated, innovative “human capital” – will be the principal force in creating new wealth and economic activity. Knowledge and technology-driven industries pay relatively high wages, attract so-called “creative class” workers and residents, and spawn spin-out businesses that create jobs and tax revenue. Most importantly, a successful knowledge economy imports new money to an area as opposed to just moving existing money around, like most retail and service-driven economic activities do. In short, importing money through high value added, knowledge industries has a very powerful effect on the economy of cities and regions that develop this dynamic. This is the reason why cities, metros, states and countries worldwide are rapidly designing bold strategies to compete for a share of the knowledge-driven market. Those that do not will miss an historic opportunity.

The “ASU/Scottsdale Center for New Technology and Innovation” will significantly help the city and the Valley to be a player in the knowledge economy. Located at the former Los Arcos shopping mall at McDowell and Scottsdale Roads, the Innovation Center will be a collaboration among the City of Scottsdale, the ASU Foundation, and Arizona State University. ASU’s principal responsibility in this collaboration will be to conceptualize and design an original, world-class “assembly point” for knowledge/technology businesses by utilizing the valuable brands and programming of both the city and the University. The goal is to attract technology-focused business, research and investment organizations to join those ASU units that will reside there. The Innovation Center will be a powerful economic engine that creates numerous long-term benefits and linkages for the city as a whole but especially for businesses and neighborhoods in close proximity, thus revitalizing southern Scottsdale. The broader vision is that the Innovation Center will play an integral role in helping the region become an internationally recognized knowledge economy location with a distinct reputation, yet comparable to Raleigh-Durham, Austin, Silicon Valley, Boston, and San Diego.

Every economic development strategy has potential risks and rewards. A more traditional, conservative approach to investing in and stimulating the economy in southern Scottsdale would likely place it squarely in the “old economy” for the long term. By comparison, the potential economic and revitalization impacts
of the Innovation Center are enormous in terms of job creation, high average wages and attracting young professionals, all of which will improve the fortunes of southern Scottsdale.

The design and planning for the ASU/Scottsdale Center for New Technology and Innovation will draw upon lessons from innovative knowledge economy business and technology centers from around the world such as Stanford Research Institute (California), the Medical and Related Sciences Discovery District (Canada), the National Science and Industrial Parks (China), the Genetics Knowledge Park (United Kingdom) and Taguspark (Portugal). Such leading edge commercial communities are examples of innovative arrangements and public investments to develop local economies. Each of them has generated and continues to generate substantial wealth, new jobs and new businesses. However, the Innovation Center will be designed to fit the unique circumstances, aspirations and resources of the collaboration partners and will break new ground. It will position the city and the University as economic and community development innovators. The Milken Institute captures the importance of the proposed activity this way, “The imperative for each city is to recognize the attendant challenges and pursue a path toward participation in the New Economy” (Knowledge-Value Cities in the Digital Age, 2003). In short, the Innovation Center will enable Scottsdale and the Valley to not just play catch up, but to sprint ahead of other areas in the world that seek the leadership mantle in technology, innovation and discovery-driven community and economic development.

**Background**

Political, business and civic leaders across the nation are beginning to get it: Innovation is to prosperity at the beginning of the 21st century what natural resources, like oil and copper, were to the economy of the early 20th century. That is, innovation is a transformational element that generates commerce, wealth and well-being in the communities that foster it. But innovations do more than just generate money. They also enhance a community’s culture, diversity and quality of life. What is the prime ingredient for innovation? Regional economic development guru Richard Florida puts it this way, “… what is true for corporations is also true for cities and regions: places that succeed in attracting and retaining creative (class) people prosper; those that fail don’t” (Florida, 2002).

Professor Florida’s empirical work has made “creative class” a buzzword among economic developers and public officials. But even preceding his popular research on the relationship between creativity and community prosperity, there was a growing body of thought suggesting that innovation is a key community asset that differentiates winners from losers in the race to be the best place to live, work and play. Such analysis can readily be seen in Jane Jacob’s seminal work *The Economy of Cities* (Jacobs, 1969) which claims that cities are institutions that have a unique and fundamental responsibility to enable the flow of ideas.
More recently, Harvard University Professor Michael Porter has shown a powerful linkage between innovation and competitiveness, while the prominent Milken Institute simply calls this phenomenon a “movement from a tangible asset-based economy to an intangible-asset based economy” (DeVol, 2002). A shorthand version of this notion belongs to Seth Godin, best selling author on change in the information-age, “The first 100 years of our country’s history were about who could build the biggest, most efficient farm. The second hundred years were about the race to build efficient factories. The next hundred years are about ideas” (Godin, 2000).

So, a critical question for communities that want to compete for the best talent, best lifestyle and best economy is this – How do you facilitate innovation?

**ASU/Scottsdale Center for New Technology and Innovation**

ASU proposes to conceptualize, design and make a best faith effort to create a unique economic amenity – the ASU/Scottsdale Center for New Technology and Innovation. The Innovation Center will be a home for activities and organizations that co-mingle and stimulate new forms of commerce, research, technology, digital art, education and economic development. In short, this will be a substantial (37 acres) place that distinguishes itself and adjacent neighborhoods from other locations by actively fostering and engaging in many forms of innovation, thus attracting creative people and stimulating the economy.

Universities are, of course, the institutions that society primarily counts on to provide a broad-based education and to conduct research that will improve the quality of life. These endeavors are, at their very essence, acts of innovation and discovery. The wide range of university-based innovative activities includes everything from the professor who offers freshman new perspectives on great works of literature to the nanobiotechnologist who investigates innovative ways to prevent disease at the molecular level to the artist-entrepreneur who utilizes information technologies to create a new form of digital art. ASU, as the region’s most prominent university, wants to bring such innovative assets to the “street” and commercialize many of its discoveries at the proposed Innovation Center.

The Innovation Center’s design will be guided by, among other things, intense research on how other, successful technology centers work. Businesses, researchers and investors will locate in the Innovation Center, which will be designed specifically to encourage interaction among them. They will jointly develop new technologies and create commercial enterprises. They will reside adjacent to high-tech graphic artists and visual designers. The Innovation Center will be a place where research interfaces with economic development, information technology interacts with innovation, and education engages the local community. A recent report by the National Research Council (2003) highlights some of the powerful
benefits of the confluence of such endeavors, “Alliances of technology and creative practices have emerged in the past. The cultural and economic consequences of these developments have been profound.”

There are many reasons why businesses will locate in the Innovation Center – the opportunity to routinely interact with creative and enterprise-oriented ASU units that will reside there (examples listed below), close proximity to the large volume of research conducted on ASU’s Main Campus (two miles away), the cachet of being located in a unique technology commercialization community, excellent freeway corridors and a growing international airport nearby, and the valuable brands of both ASU and the City of Scottsdale. Innovation Center businesses will have direct access to a talent pool educated at one of the nation’s largest research universities, unequaled Internet and computing resources, the potential to collaboratively utilize specialized equipment in ASU’s laboratories and research facilities, access to a major technical library system, opportunities for business researchers to become adjunct faculty members, and access to ASU’s recreational and cultural facilities. The Innovation Center will be unique in the Southwest, and therefore attractive to global companies looking for a western U.S. business location.

Innovation in Business and Technology
The ASU/Scottsdale Center for New Technology and Innovation will house numerous private businesses as well as certain university units that focus on technology commercialization, entrepreneurship, discovery, and the development of new industries. It will be a place where innovation attracts both human and financial capital, an assembly point where inventors, venture capitalists and entrepreneurs interact. The Innovation Center will have a significant economic impact on its immediate community and on the entire region. ASU will identify and help develop the content that will make it attractive for such firms to lease space at the Innovation Center and will locate some of its own most appealing units there. More specifically, this campus-like setting could be home to entities like –

- **Arizona Technology Enterprises, LLC (AzTE)**, ASU’s new vehicle for technology transfer and commercialization of the University’s research. AzTE transfers technologies invented at ASU to the private sector by mining university research, prosecuting patents, negotiating licenses, and marketing inventions. AzTE works with university inventors to form start-up companies and transform scientific progress into products and services and is currently working with nine new ventures. AzTE also operates such programs as the Technology Venture Clinic, a student clinic dedicated to furthering ASU technology venturing, and the ASU Innovation Fund, which provides “proof-of-concept” financing to further develop faculty inventions.

- **Technopolis**, ASU’s economic development initiative to diversify the metro economy by providing short-course training and mentoring programs for early stage technology and life science innovators and entrepreneurs. ASU Technopolis, modeled on the University of California
at San Diego’s highly successful CONNECT program, will attract early stage entrepreneurs to the Innovation Center, as well as highly experienced business people who will provide instruction and coaching to them though such offerings as Launch Pad (a rigorous one-on-one coaching program for entrepreneurs seeking assistance in their business strategy and development), a six-week “Technology and Life Science Entrepreneurship” course, in-depth workshops focusing on how to access capital, and seminars and networking events that will be a magnet for investors, entrepreneurs and innovators.

- **The Entrepreneurship Center**, a series of education, entrepreneurial culture, and technical service programs. The Entrepreneurship Center is currently being designed by ASU’s W.P. Carey School of Business and other colleges to strengthen the links among ASU’s existing entrepreneurial assets and to advance ASU student-led and faculty-led enterprises.

- **Knowledge businesses and venture capitalists** that understand the value in locating where cutting edge research and innovation in technology-driven industries are the norm. This will include both small companies and strategic outposts for larger, more established firms looking to expand and/or acquire business opportunities. These organizations will employ both young professionals and sophisticated veterans of investment in information, life science and technology industries.

- **Business services providers** such as law firms, accounting firms and management organizations, among many others. Such providers will round out the Innovation Center’s portfolio by enabling such firms to have frequent, direct contact with both emerging businesses and established enterprises that will require their various services.

**Innovation in Digital Entertainment and the Arts**

ASU and the City of Scottsdale employ some of the most innovative artists and technologists in the state and nation. A very attractive aspect of the ASU/Scottsdale Center for New Technology and Innovation will be artists and information technologists who collaborate on projects at the nexus of information, computer design and emerging forms of entertainment such as digital animation, electronic gaming and simulations. This rapidly expanding field is generating considerable new wealth in the areas that currently have clusters of relevant businesses and skilled workers. This feature of the Innovation Center will further enhance Scottsdale’s reputation as a destination for knowledge workers and young professionals because the digital arts provide a universal platform for imagination and discovery among artists, scholars, scientists, and engineers. Some of the fruits of this innovative labor will be on display at the Innovation Center. The Innovation Center’s buildings, grounds, and open spaces could be designed for viewing and interacting with public displays of entertainment-art. This would make it, in a sense, an enormous “gallery” for reflection on the linkages among technology, art and economic development. This will also make the Innovation Center a
creative, fun place to work, a quality that knowledge workers greatly value. The Innovation Center could have programs for learning, creating and generating resources in digital arts and media such as –

- **ASU’s Arts, Media and Engineering Program** (AME), a unique curriculum that combines teaching talent from the University’s departments of Dance, Theatre, Electrical Engineering, and Computer Science. Focusing on the integrated, parallel development of digital media technologies and digital media content, the AME program is currently demonstrating how the integration of expertise and resources from multiple disciplines can successfully interact to enhance learning and creativity in each and all. AME faculty and students combine understanding of computation and computational modeling with the ability to apply this understanding at every level of the digital media communication process: from the creation of tools, to the creation of content, to the analysis of the social implications of the digital revolution. The Innovation Center will provide a means through which AME faculty and students can interact with businesses, knowledge workers, neighbors and K-12 students. AME, together with ASU’s Institute for Studies in the Arts, will host performances, presentations, seminars, screenings, workshops, and exhibitions which provide, among other things, prospects for entertainment industry related ventures.

- **Technical resources for seeking national grants for transdisciplinary endeavors in digital arts.** Such resources would include print and on-line information, a librarian and specialists in philanthropic and government funding for entertainment arts and information technologies. In addition to being an information repository and link to funding sources, this resource would be proactive in creating partnerships among the university, community, and private sector.

**Innovation in Community Education**

At the end of the day, ASU is a teaching and learning enterprise. As such, the ASU/Scottsdale Center for New Technology and Innovation will be another means by which ASU meets its mission to educate Valley residents. But the common denominator of education at the Innovation Center will be technology-enhanced research and innovation. Technology in education is rapidly changing how we learn, how we express ourselves, how we perceive and interact with our world and how we learn to do business. The Innovation Center will be a place where the university and community get to “think outside the box” of traditional education. Unique combinations of research disciplines and media will create unusual curricula and intellectual events offered at the Innovation Center. Some examples of this include –

- **Technology-based Learning and Research** (TBLR), Arizona’s premier digital learning program. Utilizing its Graphics and Animation Development Studio, TBLR creates digital learning systems designed to effectively engage learners and support instructors. Residents, teacher candidates and educators would come to the Innovation Center to access TBLR’s digital
video library to see how technology is effectively used to enhance learning, understand how math and science come alive via multimedia technology, and train for careers in networking utilizing the e-Learning Network. A regional training effort based at the Innovation Center in Scottsdale would provide workshops and consultations on a broad variety of topics of interest to K-12, community and university educators.

- **ASU President’s Enrichment Series**, a long-standing series of education events that give small groups of public participants the opportunity to discuss ideas and issues with university faculty in an informal setting. This successful series has heretofore been carried out in individual homes and similar settings. The Innovation Center will enable it to become a larger and more public function. The Series, made up of well known programs including “Adventures in Learning,” “Journeys of the Mind” and “Great Conversations,” are tools that will bring the ASU learning experience to the southern Scottsdale community and allow them to engage and interact with a wide array of faculty talent.

- **Institute for Advanced Studies**, currently being designed by ASU to provide a venue and intellectual home to invite world-class thinkers and innovators from the Valley, nation and world to interact and share their expertise. The Institute will draw “big names” to study, lecture and innovate.

- **Children, Creativity and Innovation**, a new idea where children who learn “differently” or who have a serious interest in information technology and artistic expression could get an opportunity to learn in a technology-art space that is otherwise not available in Arizona’s K-12 schools. Of special note is that some years ago in Scottsdale a young student grew up and went on to change an entire industry with his innovative uses of technology and film – Steven Spielberg.

**Value Proposition and Relationships: The Benefits to Scottsdale, ASU and the Entire Valley**

The ASU/Scottsdale Center for New Technology and Innovation is a new idea that fits both an historic relationship and an existing opportunity. The long-standing relationship between ASU and Scottsdale is partially a function of geography. ASU’s main campus is in close proximity to southern Scottsdale and is expanding rapidly. More than 1,900 ASU faculty, staff and students currently reside in the southern third of the city. ASU and Scottsdale will soon be, for all practical purposes, contiguous. And, ASU has numerous other, on-going linkages to the area. Many ASU research and public service projects involve this community, such as Morrison Institute’s Community Fellows Program, the College of Architecture’s Urban Design Studio, and the Fulton School of Engineering’s research and education partnerships with General Dynamics, just to name a few.
According to city-supplied data (“Scottsdale Business Opportunity Report,” April 2003) southern Scottsdale has lower household and per capita incomes than the city as a whole. For the entire city, average household income in 2002 was $77,556 (median household income was $54,809). Comparatively, average household income within a five-mile radius of Scottsdale Road and Thomas (part of which literally abuts ASU’s Tempe Campus) was $57,543 (median household income was $41,813). A similar disparity exists when comparing per capita income for these two geographic areas – $34,739 versus $24,858. And, education levels also compare in much the same way. For the city overall, 39.1 percent of residents have a college or graduate degree compared to 32.6 percent of residents of the aforementioned area of southern Scottsdale. And, this area is not especially optimistic about its future. According to a recent Morrison Institute survey (2003), 29 percent of southern Scottsdale residents thought their “quality of place” was getting worse, making it relatively less positive about its future than other geographic areas of Scottsdale.

Clearly, a major ASU presence in southern Scottsdale in the form of the ASU/Scottsdale Center for New Technology and Innovation will provide economic rewards and exceptional educational opportunities. The Innovation Center will be something the entire city, but particularly, southern Scottsdale, can celebrate. The Innovation Center will become engaged with neighborhood organizations to help them solve problems and achieve their goals. Numerous jobs will be located in the Innovation Center. It will also have the powerful “downstream” economic effect of inspiring new businesses to develop nearby to supply goods, services and talent to Innovation Center activities, thus creating even more new jobs. Of special note is the short distance between this site and the headquarters of a highly visible national business division of General Dynamics, one of the largest and most technologically sophisticated employers in the city. ASU has close ties to General Dynamics and would work closely with the company as a source of ideas to ensure that the Innovation Center yields maximum benefit to the company and its employees.

Likewise, ASU will benefit significantly. The Innovation Center will become a unique, new home for important ASU programs – a place where they can be intimately connected with the private sector, a place where ASU and some of its present and future business partners can co-locate. This could include the ASU units listed in this concept paper and others as the concept is further developed. And, the Innovation Center will be a logical place to locate high-end ASU discovery-based endeavors that require more space than the main campus can offer when they expand as a result of winning grants, issuing valuable patents and forming university-private sector partnerships. But the positive effects of the Innovation Center would not be limited to its immediate surroundings. Although the Innovation Center would be located in southern Scottsdale, it would have very close connections, both physically and contextually, to downtown Scottsdale businesses, including the many technology companies currently located there. Public transit linkages will make the few miles between the city’s downtown and the Innovation Center negligible. The Innovation Center would provide another opportunity for the cities of Scottsdale and Tempe to collaborate. North
Tempe has many of the same characteristics as southern Scottsdale and most north Tempe students go to Scottsdale schools.

The entire Valley would benefit, as well. Artists would come from the region and the world to innovate and display; business leaders, inventors, technologists and venture capitalists would interact; college students and adults from other cities would come for classes and work-experiences; elementary and high school students would visit on field trips; leading edge thinkers in diverse fields would conduct innovative research and provide public lectures. In short, the ASU/Scottsdale Center for New Technology and Innovation would be a showpiece for Scottsdale and the Valley with ASU as convener. The benefits would include—

- **Revitalization of southern Scottsdale** via the creation of new jobs, new businesses to support them, new retail opportunities and an enormous economic boost for the businesses currently located there. Unique forms of community education and creative activities would make surrounding neighborhoods very attractive places to live, too.

- **Attraction of new money and commerce to the city from creative, knowledge economy industries**, particularly businesses associated with leading-edge technologies, digital arts and information science. Such businesses create high paying jobs and stimulate new business formation in the area to meet their service and retail needs.

- **Positive attention brought to Scottsdale and the region** as a place of vision with substantially improved chances to reap the rewards of the knowledge economy.

- **A long-term ASU commitment** in the southern Scottsdale community.

- **Housing and property values will increase** in the surrounding area because of proximity to this new amenity.

- **Scottsdale’s positive national image will be reinforced** as an innovative, artistic, “cool” place to live and to work.

- **The Valley will gain a new “Point of Pride”** that will increase tourist spending in both Scottsdale and neighboring Valley cities.

- **ASU will enhance its social and economic embeddedness** in the region in a creative way.

Although the ASU/Scottsdale Center for New Technology and Innovation is a concept that could be developed in many cities in Greater Phoenix, the time and place is right for this project in Scottsdale. The collaboration of the ASU Foundation, ASU and the City of Scottsdale in the development of the site as an original, world class business, innovation and technology center is a creative and powerful solution to economic and revitalization issues in the southern part of the city. The Innovation Center will be a robust
economic engine for the city, a revitalization vehicle for southern Scottsdale and an opportunity for the Valley to not just play catch up, but to sprint ahead of other areas in the world that seek the leadership mantle in technology, innovation, and knowledge-driven commerce.

**Project Concept/Narrative**

Innovation Center Task Force
Arizona State University

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