

Regional Innovation

Regional Innovation: The development and implementation of new or modified products, services, technologies, processes, systems, organizational structures or business models that increase the efficiency or productivity of business operations or encourage the emergence of new markets.



Innovation Concentrates in Regions

- Metro regions are primary sites for innovation
- Knowledge spillover and transmission
 - Tacit knowledge is not easily transmitted through communication tech
 - Spatial proximity critical to learning and knowledge transfer
- Industries and universities lead innovation output (patent)
 - Function of industrial organization
 - Growing share of innovation among small firms
 - Correlation between university research funding and patent activity
 - Federal research dollars shrinking



Lack of Venture Capital

- In 2011, \$13 billion in capital investment was made in the US, but only \$208 million in investment was in Arizona.
- Seed and early-stage funding needed to spur commercialization
- Proof of concept
- Business planning



Metro Phoenix Inputs & Ecosystem

- Middle of the pack on high-tech employment (41 out of 100)
- Middle of the pack on STEM jobs (43 out of 100)
- High level of business birth and deaths (12 out of 100)
- SME births (17 out of 100)
- Patent activity (36 out of 100)
- University research funding (33 out of 100)
- Ecosystem - Tallwave, Disruptors, AzTe, incubators, Gangplank



Clean tech

- Energy Storage
- Electric Vehicles, Smart Grid
- Energy Efficiency, Materials
- Renewable Energy



Aerospace

- Composite Materials
- UAV
- Biofuels
- Sensors and Communications



Medical Technology

- Medical devices
- Instruments
- Healthcare



Education

- Educational Software
- Instructional Support Systems

	Next Economy: Exports						Next Economy: Low Carbon				Next Economy: Innovation			
	Exports and Export Intensity (2009)						Clean Economy Jobs & Intensity (2010)				Patent Appl. & Inventors (2001-2010)			
Metropolitan Region	Total exports, 2009, (millions)	Rank* (Exports)	Exports as a share of total output (Export intensity)	Rank* (Export intensity)	Service exports as share of total exports	Goods exports as share of total exports	Clean economy jobs, 2010	Rank* (Clean economy jobs)	Clean jobs as a share of all jobs, (Clean intensity)	Rank* (Clean intensity)	Patent applications, 2001 to 2010	Patent applications per 1,000 workers	Rank* (Patents applications per 1,000 workers)	Number of unique patent inventors, 2001 to present
All Metro Regions	\$1,244,135		10.1%		43.5%	56.5%	2,675,545		2.0%		2,362,809	25.9		1,338,662
Albuquerque	\$3,323	67	10.4%	48	55.2%	44.8%	9,912	53	2.6%	19	5,270	13.6	50	3,218
Dallas	\$40,452	5	14.0%	17	45.5%	54.5%	38,562	10	1.3%	82	51,667	17.7	40	31,343
Denver	\$13,072	20	10.2%	55	70.4%	29.6%	27,929	15	2.3%	26	18,910	15.6	46	11,914
Las Vegas	\$6,380	40	8.0%	87	80.4%	19.6%	9,797	54	1.2%	84	6,179	7.4	70	3,876
Los Angeles	\$79,392	2	11.9%	32	48.9%	51.1%	89,592	2	1.7%	58	117,386	21.8	29	74,660
Phoenix	\$17,526	15	10.4%	46	49.3%	50.7%	22,904	20	1.3%	78	32,885	18.8	36	20,295
Portland	\$19,882	14	18.3%	3	32.8%	67.2%	3,591	87	1.3%	76	41,761	41.5	16	25,154
Riverside	\$10,672	24	9.0%	71	45.3%	54.7%	22,532	23	1.9%	36	8,884	7.5	68	6,301
Salt Lake City	\$5,829	47	10.5%	45	49.0%	51.0%	10,539	50	1.7%	55	12,082	19.4	33	7,570
San Diego	\$17,468	16	11.1%	40	50.1%	49.9%	22,862	21	1.7%	60	89,097	64.9	8	49,883
San Jose	\$25,811	10	21.1%	2	41.0%	59.0%	18,868	26	2.2%	31	218,204	249.7	1	123,468
Seattle	\$27,708	7	14.3%	13	35.5%	64.5%	31,340	13	1.8%	46	114,058	65.2	7	48,854

*Rank is based on 100 metro regions