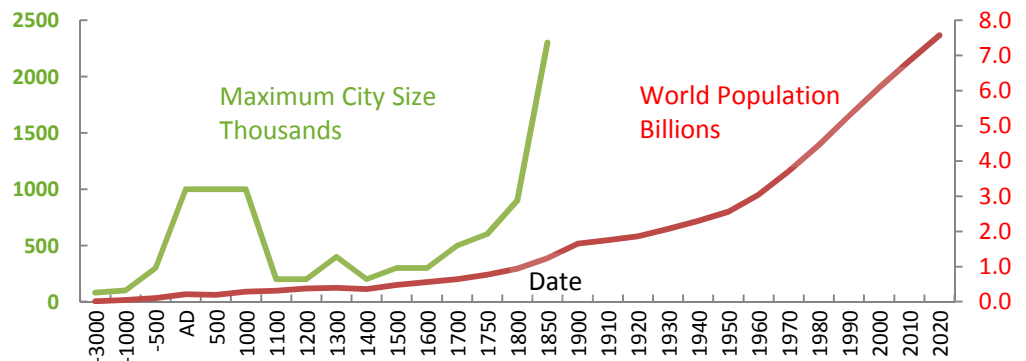


## Reaching Critical Mass for Innovation

Innovation researchers suggest that affluence, education, city size and ease of communicating ideas all correlate with increased levels of technical and cultural change.

Date	Population Millions	2.5% Millions	Max City size	Innovation & Communication
-3000	14	0.4	80K	Cuneiform, pyramids
-1000	50	1.3	100K	Phoenician alphabet, Chinese Hanzi characters
-500	100	2.5	<b>300K</b>	Buddha / <b>Athens</b> / Confucius / Mayans / geometry
1	211	5.3	<b>1M</b>	Christ / <b>Roman</b> Republic
500	198	5.0	<b>1M</b>	Muhammad, Zero-decimal ( <b>Constantinople</b> )
1000	290	7.3	<b>1M</b>	Algebra ( <b>Baghdad</b> )
1100	311	7.8	200K	Crusades, Saladin
1200	380	9.5	200K	Francis of Assisi, Thomas Aquinas, Magna Carta
1300	396	9.9	400K	Van Eyck, Dante
1400	362	9.1	200K	da Vinci, Gutenberg , Chinese exploration
1500	473	12	300K	Galileo, Michelangelo, Columbus, Luther
1600	562	14	300K	Newton, Harvey
1700	645	16	500K	steam engine, Bach
1750	764	19	600K	Mozart
1800	945	24	<b>900K</b>	telegraph, Lister ( <b>London</b> )
1850	1,234	31	2.3M	Darwin, Freud, Verne
1900	1,654	41		telephone, radio, electric power, Curie
1910	1,750	44		cars, Einstein, Jung
1920	1,860	47		airplanes, Picasso, quantum mechanics
1930	2,070	52		Wernher von Braun - Rockets
1940	2,300	58		Atomic Energy
1950	2,556	64		Eliot Jaques, Maslow
1960	3,039	76		space program, Graves ECLET
1970	3,707	93		
1980	4,454	111		
1990	5,278	132		
2000	6,081	152		
2010	6,840	171		
2020	7,570	189		



[http://www.prof2000.pt/users/jnunes/world\\_population\\_growth.htm](http://www.prof2000.pt/users/jnunes/world_population_growth.htm)

[https://en.wikipedia.org/wiki/Historical\\_urban\\_community\\_sizes](https://en.wikipedia.org/wiki/Historical_urban_community_sizes)