

Quantum Technologies Roadmap of India



		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035 2	036 203	7 2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
1	Development of quantum computers or quantum systems								R&D	efforts t	to develop	fault-to	lerant a	nd scalable	quantum :	ystems a	nd applic	ations							
2	Quantum Simulation			H Superconduc	ting materia	ls			:	:	: :		i .	: :	i	·	:	:	:	1	:	1	: :		:
							Spintr	onics							•	•	,	•		•					
		Development of new materials																							
3	Quantum Science for Cryptography/Cyber Security		Pu	ublic Key In	frastructu	ires					: :				i										
			А	Authenticat	ion Servic	es			•						•					•					•
				Encryption	n Services	;							•		•					•		•			
			Randomn	ness for cry	yptograph	ic scheme	es								,					•					
4	Quantum Computation				R&D	effort to	develop	Quant	um Com	puters															;
5	Quantum Communication				R&D	effort to	develop	Quanti	um Com	puters															
J	Quantum Johnnamoution												:	:	<u> </u>					:		:			
6	Quantum Sensing and Metrology					Quantu	m Sensin	g and I	Metrolog	У	<u>. </u>									•					
7	Quantum Science for Strategic Applications		Quantum Computation: Proprietary algorithms, hardware, accelerators																						
			Quantum Cryptography: Proprietary algorithms, hardware, accelerators																						
									-		algorithms						-								
				Qı	uantum-co	ontrolled C	Chemistry: S							dan dan da	i la la cella										
		The ability to manipulate individual atoms and molecules is leading to new quantum technologies Such ability will have surprising benefits to military and strategic units to develop new materials with specific use cases																							
				Quantum t		oon ho 'tu			-				lary and	strategic ui	its to devi	iop new n	iateriais	with spe	cinc use	cases					
			Quantum technology can be 'tweaked' to suit the requirements of the armed forces Various communication applications of the armed forces can be developed to strengthen the network centric warfare architecture																						
									•				- CCO CCI	- De develop	00 10 3110		Hetwork								
8	Standardization of Quantum Technologies						Quantum	Comp	uting De	vices															
		Stand	lardization	n of Quanti		-																			
				Standa	ardizatio	n of Qua	intum Ser	sors a	ind other	devices															