IoTAB Report Analytics

		Pages		
Up-front section		**13.0**		
	Cover Page and IoT Advisory Board Members	2.0		
	Table of contents	3.0		
	Executive Summary	0.3		Need Paragraph on Manufacturing
	IoT unlocks economic prosperity, innovation, and societal well-being	1.3		Need to add trade issues (modules, chips)
	Key challenges are hindering IoT adoption and scaling.	1.4		
	Strategic Government leadership is needed to facilitate adoption	1.7		
	Call to Action: Leading the Way Forward	1.3		Some pages marked for deletion
	Background	2.0		NDAA Charter for IoTAB
Introduction to the Internet of Things		21.0		
	What is IoT?	2.0		Can use a few diverse examples
	What can IoT do?	4.0		
	- IoT Creates New Value			Need graphics and text for 4 applications
	- IoT Transforms Business Models			
	- IoT Enables Business Ecosystems			Change "Trasforms" to "Enables"
	The Current State of IoT			
	- IoT Trends Worldwide	2.0		
	- IoT Trends in the US	1.1		
	- Market Consolidation	1.6		
	- Technology Maturity	0.8		
	The Future of IoT			
	- The Evolution of IoT	1.3		
	- A Vision for the IoT Enabled Economy	1.9		
	- Promoting the IoT Enabled Economy	1.4		
	- IoT Ecosystem Platforms	1.3		
	- Orchestrated Business Partnerhips	2.0		Change "Ecosystem" to "Business"
	- IoT Economy Potential to GDP	1.6		
Findings of the IoT Advisory Board.		56.0		
1	Industry adoption is slower and lower than expected	3.0		
2	A lack of coordination at the national level is hindering IoT adoption	1.8		
3	Adoption innovative IoT apps are hindered by various policies and regulations	1.0		
4	Insufficient current workforce with the technical, digital & analytic skills	1.5		
	Propose to move #9 (IoT modules) here, before #5 (chips inside modules)			
5	Chip suppy chain vulnerabilities and monetization require US-EU Coordination	3.2		Change the current title to this one
6	Trust in IoT requires a multi-dimentional ecosystem perspective	3.3		
7	Privacy concerns undemine trust in IoT creating barriers to adoption	1.5		
8	IoT Cybersecurity Concerns are a major barrier to adoption	1.3		
9	IoT modules built by Chinese are a significant part of the market	2.1		Could make title stronger
10	Quantum computing poses a major threats to cybersecurity	2.0		
11	Interoperability is a key challenge for IoT across multiple industries.	1.3		
12	Various connectivity challenges hindr IoT adoption, operation and scaling.	1.2		
13	Artificial Intelligence is critical to unlocking and accelerating the value of IoT.	2.8		
14	Barriers to IoT adoption require multi-stakeholder business eco-partnerships	2.1		
15	Convergence of AI, IoT will accelerate sustainability and drive growth	3.3		Need better title (supply chains + networks)
16	Equity in access, opportunities, benefits and outcomes ... national economy...	1.8		
17	Small businesses can reap significant benefits from IoT, face barriers...	1.2		
18	Small companies and startups are instrumental for innovatiion, face barriers	1.0		
19	IoT brings significant value to agriculture, but adoption is slow.	1.4		
20	The development of smart communities in the U.S. is limited	3.4		
21	IoT opportunity to further transform transit systems and traffic management...	2.6		
22	IoT is transforming healthcare and is poised to revolutionize it, but...	3.4		
23	IoT supports environmental sustainability through real-time monitoring, ...	3.0		
24	IoT can enhance and improve public safety outcomes, but ...	2.9		
25	True end-to-end supply chain visibility is hindered due to disconnected...	2.5		
26	IoT technologies in the industrial sector need to be properly governed	1.4		
	Missing Pete - Smart Cities and critical Infrastructure			
	Missing Steve - IIoT migrating from Brownfied to Greenfield			
	Missing finding on confidentiality (different than privacy)			

Recommendations of the IoT Advisory Board				
Establishing a National IoT Strategy		**18.3**	**18.3**	
	Key Recommendation KR1.1 - National Strategy	**2.0**	**6.1**	
	- ER1.1.1 - Inter-agency Coordination	**1.0**		
	- ER1.1.2: Critical and Emerging Technology (CET)	**1.1**		
	- ER1.1.3: Quantum computing	**1.5**		Does not belong here, covered by CET
	- ER1.1.4: Chinese Modules Issue	**0.5**		
	Key Recommendation KR1.2: Accelerate IoT technology innovation	**0.5**	**6.1**	
	- ER1.2.1: Fully fund fund IoT R&D and pilot project	**0.5**		
	- ER1.2.2: Congress accelerate adoption of IoT Tech	**1.5**		
	- ER1.2.3 Exec Branch accelerate adoption of IoT Tech	**1.3**		Is this the same like the one the above?
	- ER1.2.4: Congress and the Executive Branch should specify and use IoT	**1.0**		
	- ER1.2.5: Congress should continue to support and fund tech R&D via Industry	**1.3**		
	Key Recommendation KR1.3: The Executive Branch promote international collab	**1.5**	**2.0**	
	- ER1.3.1: Exec Branch create internationally-compatible data minimization…	**0.5**		
	Key Recommendation KR1.4: The Executive Branch should lead by example	**1.0**	**4.1**	
	- ER1.4.1: The Executive Branch should lead the way in facilitating IoT adoption	**0.8**		
	- ER1.4.2: Congress & Exec Branch to upgrade legacy federal IoT infrastructure	**1.1**		
	- ER1.4.3: Congress & Exec Branch to establish a CEO-level ongoing advisory board	**0.7**		
	- ER1.4.4: Exec Branch integrate IoT considerations with national AI strategy	**0.5**		
Modernizing IoT Infrastructure		**17.2**	**17.2**	
	Key Recommendation KR2.1: Exec Branch promote collaborative development	**1.1**	**6.5**	
	- ER2.1.1: Exec Branch facilitate standards for interoperability public safety	**1.5**		
	- ER2.1.2: Exec Branch facilitate standards for interoperability medical devices	**1.9**		
	- ER2.1.3: Exec Branch facilitate standards for supply chain logistics	**1.1**		
	- ER2.1.4: Exec Branch facilitate standards/protocols supply chain management	**0.9**		
	Key Recommendation KR2.2: Exec Branch methods for interoperability for IoT	**1.0**	**3.8**	
	- ER2.2.1: Exec Branch facilitate interoperability via consistent data taxonomy	**0.5**		
	- ER2.2.2: Exec Branch promote/adopt industry-led standards/protocols for IoT	**2.3**		
	Key Recommendation KR2.3: Exec Branch expand service and connectivity for IoT	**1.3**	**4.3**	
	- ER2.3.1: Exec Branch promote continued US leadership on spectrum policy	**1.2**		
	- ER2.3.2: Congress ot increase funding/implementation of broadband rural	**0.6**		
	- ER2.3.3: Exec Branch promote adoption of satellite narrowband IoT Systems	**1.2**		
	Key Recommendation KR2.4: Exec Branch encourage digital infrastructure initiatives	**0.7**	**2.6**	
	- ER2.4.1: Exec Branch facilitate creation of IoT business ecosystems	**1.0**		
	- ER2.4.2: Exec Branch lead collaboration on Global Digital Identifier	**0.9**		
	- ER2.4.3: Exec Branch encourage trusted digital twins and digital threads			Should be under the Trust section
Establish Trust in IoT		**17.9**	**17.9**	
	Key Recommendation KR3.1: Congress & Exec Branch cybersecurity guidance for IoT	**0.6**	**6.1**	
	- ER3.1.1: Exec Branch strengthen IoT cybersecurity measures across supply chain	**0.6**		
	- ER3.1.2: Exec Branch consider additional ways to highlight those vulnerabilities	**1.1**		
	- ER3.1.3: Exec Branch accelerate adoption of IoT to enhance electric grid	**1.2**		
	- ER3.1.4: Congress & Exec Branch support domestic IoT Cybersecurity labeling	**0.5**		
	- ER3.1.5: Congress ensure adequate funding for Cyber Trust Mark campaign	**0.5**		
	- ER3.1.6: Exec Branch establish international harmonization IoT Cyber programs	**0.9**		
	- ER3.1.6: Exec Branch promote standards/conformity for Cyber in Industrial IoT	**0.7**		
	Key Recommendation KR3.2: Congress comprehensive federal privacy legislation	**0.5**	**8.7**	
	- ER3.2.1: Congress include IoT in proposed privacy legislation	**0.4**		
	- ER3.2.2 MISSING			
	- ER3.2.3: Exec Branch promote privacy by design in IoT devices	**1.0**		
	- ER3.2.4: Congress & Exec Branch establish clear policies on data sharing	**0.9**		
	- ER3.2.5: Congress & Exec Branch encourage plain language on privacy policies	**0.7**		
	- ER3.2.6: Congress & Exec Branch develop/implement transparency mechanisms	**0.9**		
	- ER3.2.7: Congress & Exec Branch endorce univeral opt-out signals	**0.9**		
	- ER3.2.8: Congress & Exec Branch require IoT privacy info "Monroney Labels"	**1.0**		
	- ER3.2.9: Congress add location tracking ebabled disclosure to device labeling	**0.7**		
	- ER3.2.10: Exec Branch promote us of privacy enhancing technologies in IoT	**0.6**		
	- ER3.2.11: Exec Branch follow NIST sanitization standards for gov cars	**1.1**		
	Key Recommendation KR3.4: Exec Branch trusted IoT arch for provenance/trace	**1.0**	**3.1**	
	- ER3.4.1: Congress & Exec Branch incentivize mulri-stakeholder alliances	**1.2**		
	- ER3.4.2: Should put here ER2.4.3 and possibly quantum computing	**0.9**		
	NOTE - This Consumer IoT dominated. Little on IIoT or critical infrastructure, or biz confidentiality			

Fostering an IoT-Ready Workforce		4.7	4.7	
	Key Recommendation KR4.1: Congress & Executive Branch on future IoT workforce	1.5	4.7	
	- ER4.1.1: Exec Branch review National Cyber Workforce, and align with IoT	1.1		
	- ER4.1.2: Exec Branch collaborate with all for IoT workforce, sector priority	0.6		
	- ER4.1.3: Exec Branch same as above in indsutries and areas of opportunity	1.0		
	- ER4.1.4: Congress & Exec Branch advocate data privacy training programs	0.5		
Facilitating Industry Adoption of IoT		20.0	20.0	
	Key Recommendation KR5.1: Congress consider financial models for IoT programs	0.5	2.0	
	- ER5.1.1: Exec Branch encourage financial or funding models for IoT projects	0.8		
	- ER5.1.2 Congress & Exec Branch programs/grants for less developed colmmunities	0.7		
	Key Recommendation KR5.2: Congress & Exec Branch develop Agri-IoT Strategy	0.9	2.8	
	- ER5.2.1 Congress should fund the deployment of a “farm of the future”	0.9		
	- ER5.2.2: Exec Branch support SDO efforts on interoperability of Agriculture Sys	0.4		
	- ER5.2.3 Congress & Exec Branch facilitate fram/ranch adoptipn of IoT Tech	0.4		
	- ER5.2.4 Congress support federal right to "repair" farmer's smart equipment	0.2		
	Key Recommendation KR5.3: Congress & Exec Branch IoT for smart communities.	0.0	3.7	
	- ER5.3.1: Exec Branch facilitate smart community, “IoT infrastr.” reference models	0.7		
	- ER5.3.2 Congress & Exec Branch develop Sustainability partnerships (SCSEP)	0.8		
	- ER5.3.3: Exec Branch facilitate adoption and equity of benefits of IoT/Smart tech	0.7		
	- ER5.3.4: Facilitate smart community opportunities and IoT adoption (broadband)	0.6		
	- ER5.3.5: Exec Branch support SDO efforts on smart communities interoperability	0.2		
	- ER5.3.6: Exec Branch facilitate small-to-medium city adoption	0.4		
	- ER5.3.7: Exec Branch facilitate equity realization of smart community benefits	0.3		
	Key Recommendation KR5.4: Congress & Exec Branch promote IoT for public safety	0.0	1.8	
	- ER5.4.1: Exec Branch include privacy/data on smart community projects	0.5		
	- ER5.4.2 Congress & Exec Branch consider IoT procurements for public safety	0.5		Should this be in privacy?
	- ER5.4.3 Congress & Exec Branch create programs to purchase IoT systems	0.8		
	Key Recommendation KR5.5: Congress & Exec Branch promote IoT for health care	0.0	3.5	
	- ER5.5.1: Exec Branch promote IoMT as an enterprise priority, facilities, teams	0.3		
	- ER5.5.2 Congress & Exec Branch facilitate cybersecurity in smart medical devices	1.2		
	- ER5.5.3 Congress & Exec Branch adoption of healthcare IoT in rural Communities	0.6		
	- ER5.5.4 Congress facilitate adoption of AI in IoT Healthcare (R&D and workforce)	1.0		
	- ER5.5.5 Congress enact HIPAA-like protection for users’ medical data	0.4		
	Key Recommendation KR5.6: Congress & Exec Branch promote IoT for sustainability	0.0	4.9	
	- ER5.6.1 Congress study the feasibility of open repository for environmental data	1.2		
	- ER5.6.2 Congress support R&D and deployment of low-cost Air Quality sensors	0.6		
	- ER5.6.3 Congress implement IoT-based Water Monitoring Infrastructure	1.1		
	- ER5.6.4 Exec Branch use IoT to facilitate carbon transparency across sectors	1.0		
	- ER5.6.5 Exec Branch promote IoT tech for environmental situational awareness	1.0		
	Key Recommendation KR5.7: Congress & Exec Branch promote IoT in Smart Transit	0.1	1.3	
	- ER5.7.1: Exec Branch promote smart, connected, and electrified transportation	1.2		
Promoting an IoT Enabled Economy		9.1	9.1	
	Key Recommendation KR6.1: Exec Branch IoT adoption for supply chain logistics.	1.1	2.1	
	- ER6.1.1: Exec Branch encourage businesses to adopt IoT tech in supply chain Ops	0.5		Needs work
	- ER6.1.2 Congress & Exec Branch policies, incentives to grow IoT mfg supply chain.	0.5		
	Key Recommendation KR6.2: Exec Branch facilitate PPPs focused on IoT adoption	1.4	3.2	
	- ER6.2.1: Exec Branch collaborative IoT platforms & stakeholder business incentives	0.9		
	- ER6.2.2: Exec Branch promote IoT trusted digital marketplaces and ecosystems.	0.9		
	Key Recommendation KR6.3: Actively promote and support of AI in IoT apps	0.8	1.7	
	- ER6.3.1: Exec Branch promote trusted AI-IoT platforms (supply chains, etc.)	0.9		Need to change title
	Key Recommendation KR6.4: Exec Branch regulatory guidance on drone industry	1.4	1.4	
	Key Recommendation KR6.5: Exec Branch promote equity-accessibility from IoT use	0.7	0.7	
	Conclusion and Miscl	11.0		
	References.			
	Acknowledgements			
	Appendix A: IoT Stakeholders			
	Table of Abbreviations			

Up-front section	13.0	6.9%	
Introduction to the Internet of Things	21.0	11.2%	
Findings of the IoT Advisory Board.	56.0	29.8%	**29.8%**
Establishing a National IoT Strategy	18.3	9.7%	
Modernizing IoT Infrastructure	17.2	9.1%	
Establish Trust in IoT	17.9	9.5%	
Fostering an IoT-Ready Workforce	4.7	2.5%	
Facilitating Industry Adoption of IoT	20.0	10.6%	
Promoting an IoT Enabled Economy	9.1	4.8%	**46.3%**
Conclusion and Miscl	11.0	5.8%	
TOTAL (Approx if fit with no gaps)	**188.2**		