Annex A Criteria for the Members, External Partners, Linked Third Parties and the Nodes

These Criteria for the Members, External Partners, Linked Third Parties and the Nodes are derived from the need for additional competence or other resources that the Association may have in order to meet its purpose.

Against the above listed items the membership criteria for Members, External Partners and Linked Third Parties are formulated as follows:

A. Business ....

B. Research Institute and Higher Education

No.	Research Institute	Academia (Universities)	Candidate Partner Assessment
1		The Universities need to have a track record in educational programs, not only in the field of technological or ICT education, but also in the field of entrepreneurial education. They need to a) Organize PhD's and b) Organize at least three Master programs in the field of ICT and c) Teach curricula in the field of	a) Nowadays STUBA offers following PhD. study programs in ICT and technological related to ICT: 1) Applied Informatics (Faculty of Informatics and Information Technologies) 2) Intelligent Information Systems (Faculty of Informatics and Information Technologies) 3) Applied Informatics (Faculty of Electrical Engineering and Information Technology) 4) Robotics and Cybernetics (Faculty of Electrical Engineering and Information Technology) 5) Automation and Informatics of

			Machines and Processes (Faculty of Mechanical Engineering) 6) Process Control (Faculty of Chemical and Food Technology) 7) Process Automation and Informatization (Faculty of Materials Science and Technology in Trnava) b) STUBA has 4 faculties strongly focused on ICT, so there are several Master programs in ICT: 1) Applied Informatics (Faculty of Electrical Engineering and Information Technology) 2) Multimedia Information and Communication Technologies (Faculty of Electrical Engineering and Information Technology) 3) Robotics and Cybernetics (Faculty of Electrical Engineering and Information Technology) 4) Information Systems (Faculty of Informatics and Information Technologies) 5) Intelligent Software Systems (Faculty of Informatics and Information Technologies) 6) Internet Technologies (Faculty of

			Informatics and Information Technologies) 7) Software Engineering (Faculty of Informatics and Information Technologies) **Faculty of Informatics and Information Technologies - IET international accreditation** All of Faculty of Informatics and Information Technologies study programmes have the highest professional accreditation (CEng) from British Engineering Council UK (accredited by IET) with following commendable features from last accreditation panel: • The Panel commends the high level of industrial influence on the curriculum. • The Panel commends the

			level of involvement of industrial lecturers and industrial support for projects. • The Panel commends the annual student research conference which is based on project outcomes at both Bachelors and Masters levels. • The Panel commends the Askalot online student support system. c) In Faculty of Electrical Engineering and Information Technology is entrepreneurial education and collaboration with industry integrated into the study programmes various ways: - optional subjects in collaboration with external colleagues: Application of Technologies into the Business, Digital Technologies of Manufacturing, - Bachelor´s degree obligatory optional subjects such as: Basics of Management and Entrepreneurship, E-Marketing, Basics

			of Finance, Quality Management, Electricity Market, - at Institute of Multimedia Information and Communication Technologies – Bachelor´s degree subjects: Access Points, Transmitting systems and Network, Multimedia 1, Master´s degree subjects: Optocommunicatio n systems and Networks, Concepts, Architecture and Protocols NGN, Wireless Communications, Digital Signals Processing, - at Institute of Robotics and Cybernetics – Bachelor´s degree subjects: Production Systems, Information Systems in Healthcare, Control processing, Databases and Visualization, Industrial IoT, Master´s degree subjects: Visual Systems, Dynamics of Electrization Systems - various collaborations with lecturers from industry/business such as Nokia,

			Alcasys, Slovak Telekom, Orange, O2 Services, Accenture, Atos, … Faculty of Informatics and Information Technologies has collaboration with industry integrated into the education mainly by: 1. <u>Team projects:</u> One-year projects of 6-8 students usually lead together with partner from industry. Most of these team usually join our competition where almost all juries are from industry (one is from faculty). Companies from last 3 years: Accenture, Ditec, QBSW, Softec, Tempes, Unicorn, robime.it, Kistler, Sféra, Tempest, VUB bank (Intesa Sanpaolo group), Softplan Slovakia, Instarea, Moving Medical Media, Deputy Prime Minister of the Slovak Republic for Investments and Informatization,

			Orange Slovakia, Molpir, Mentor Partners, Aliancia Fair-play, Siemens Healthineers. 2. Teaching: Invited lectures from industry are common parts at almost all of our courses. Collaboration with industry tends to continue in several courses through assignments form industrial partner up to independent credited courses lead by experts from companies. Today we have 9 such courses, including summer internship as credited course for master study in the first summer.

		entrepreneurship. As the case may be, this entrepreneurial education may be integrated in the technological or ICT education.	

2	The research institutes need to meet the following two specific criteria: a) Employ at least 5 researchers with hindex >20 and b) Have participated in at least 15 spinoffs in the field of ICT over the last 10 years (cf. also 5 c)). Experience in this context can be demonstrated for example by participation in the capital of the (i.e. 1) spin off, collaboration with the (i.e. 1) spin-off in terms of IPR licensing, joint development or rendering substantial services. (cf. also 5 c)).	The Universities need to meet at least two of the following three specific criteria: a) Belong to the top 5 ICT universities in their country as defined by a national accepted listing, if such national list exists, b) Employ at least 5 researchers with hindex >20 and c) Have participated in at least 15 spin-offs in the field of ICT over the last 10 years. Experience in this context can be demonstrated for example by participation in the capital of the (i.e. 1) spin off, collaboration with the (i.e. 1) spin-off in terms of IPR licensing, joint development or rendering substantial services. (cf. also 5 c)).	a) Nowadays there is no official national listing of top universities, but we include below other rankings to prove the quality of STUBA as a university with several faculties focused on ICT in Slovakia. QS Rankings STUBA: QS World University Rankings 2020: #751-800 (Comenius University in Bratislava (“UK”): QS World University Rankings 2020: #751-800) (Technical University of Kosice (“TUKE”): QS World University Rankings 2020: #801-1000) STUBA: QS Eastern Europe and Central Asia University Rankings 2019: #58 (UK: QS Eastern Europe and Central Asia University Rankings 2019: #45) (TUKE: QS Eastern Europe and Central Asia University Rankings 2019: #100) Times Higher Education (THE) STUBA: THE World

			University Rankings 2019: #1001+ (UK: THE World University Rankings 2019: #801-1000) (TUKE: THE World University Rankings 2019: #1001+) STUBA: THE Emerging Economies 2019: #351+ STUBA: THE Engineering & technology 2019: #801+ STUBA:THE Physical sciences 2019: #801+ STUBA: THE Computer science 2019: #601+ (TUKE: THE Computer science 2019: #601+) (UK: THE Computer science 2019: n/a) Academic Ranking of World Universities STUBA: Academic Ranking of World Universities 2018 (Shanghai Ranking): #801 – 900 (UK: Academic Ranking of World Universities 2018 (Shanghai Ranking): #701 – 800) (TUKE: Academic

			Ranking of World Universities 2018 (Shanghai Ranking): n/a STUBA: Academic Ranking of World Universities 2018 - Mathematics (Shanghai Ranking): #401 – 500 (UK: Academic Ranking of World Universities 2018 - Mathematics (Shanghai Ranking): #401 – 500) b) Researchers with h-index based on platform Web of Science with expertise in various fields: •Mesiar Radko (SVF) H-index 41 •Lukeš Vladimír (FCHPT):23 •Brezová Vlasta (FCHPT): 35 •Šimon Peter (FCHPT): 23 •Rapta Peter (FCHPT): 22 •Mikula Karol (SVF): 20 • Based on Google Scholar – Miroslav Fikar (FCHPT): 21 • Based on Scopus - Kvasnicka Vladimir (FIIT) h-index

			20 c) Regards the number of spin-offs, STUBA did participate only in 5 spin-off in various technological fields. In past, it was more complicated for Slovak universities in general to create or participate in spin-offs. However, STUBA has created University Technological Incubator in 2005 to support start-ups and innovative young companies. In total, Incubator has supported 50 companies, from which 50% was from the field of ICT.
3	The research institutes need to be part of or have access to the eco-system within the existing Nodes or within the potential new Nodes. An eco-system is defined in section E In particular the partners should demonstrate that they can organize their activities in such a way that they are able to participate physically to the Node activities, or that they dispose a sufficient means of interaction to allow interoperability with the other partners in the Node.	The Universities need to be part of or have access to the eco-system within the existing Nodes or within the potential new Nodes. An eco-system is defined in section E In particular the partners should demonstrate that they can organize their activities in such a way that they are able to participate physically to the Node activities, or that they dispose a sufficient means of interaction to allow interoperability with the other partners in the Node.	Regards the access to the eco-system of existing Nodes of EIT Digital, STUBA is situated in Bratislava and its one faculty in Trnava, which are very close to the EIT Digital Budapest Node. The geographical closeness will enable STUBA to participate very actively on the activities of Budapest Node. Regards future collaboration, STUBA has advantage based on geographical closeness not only to Budapest, but also to Vienna, Brno, Prague and several cities of Poland. STUBA has collaborations with

			many institutions, industry and business in this region. STUBA´s joining the EIT Digital can contribute to strengthening collaborations in the field of ICT in RIS region and ESEE region. Slovakia, similarly as its bordering countries which are part of RIS region, copes with difficulties such as brain drain, low national financing, complicated legal environment regards setting up start-ups and spin-offs at university level (especially public universities). This will enable STUBA to share its practice and experience with other countries facing similar challenges.
4	In order to be able to promote creativity and entrepreneurial spirit, the research institutes need to have during the last three years structural relationships with relevant business partners or intensive collaborations with such partners. **Examples:** a) Have PHD qualified persons employed who are also active in the ICT-business	In order to be able to promote creativity and entrepreneurial spirit, the Universities need to have during the last three years structural relationships with relevant business partners or intensive collaborations with such partners. **Examples:** a) Have professors employed who are also active in the ICT-business field,	a) Several of STUBA faculties have long term extensive collaborations with industry and business partners in the field of ICT. In last three years students and colleagues from Faculty of Informatics and Information Technologies have started three companies (Luidi's box, Speekle, UX tweak) in cooperation with faculty (in research,

			people or ownership share). c) Wide long-term experience with working together with industrial partners and private companies, please see examples of the collaborations (last three years): Examples of Horizon 2020 project collaborations with private for-profit entities: 1. NEWTON - Networked Labs for Training in Sciences and Technologies for Information and Communication, duration 2016 – 2019, 2. IoSense - Flexible FE/BE Sensor Pilot Line for the Internet of Everything, project number: 692480, duration: 2016 – 2019, 3. CONNECT - Innovative smart components, modules and appliances for a truly connected, efficient and secure smart grid, project number:737434-1 - ECSEL-RIA, duration:

			2017 – 2020, 4. 5G_GaN2 - Advanced RF Transceivers for 5G base stations based on GaN Technology, project number: 783274 - ECSEL-RIA, duration: 2018-2021, 5. HiPERFORM - High performant Wide Band Gap Power Electronics for Reliable, energy eFficient drivetrains and Optimization thRough Multi-physics simulation, project number: 783174 - ECSEL-RIA, duration: 2018-2021, 6. OSIRIS - Optimal SIC substRates for Integrated Microwave and Power CircuitS, project number: 662322-ECSEL-RIA, project duration: 2015 – 2018 Examples of national projects collaborations with private for-profit entities: Slovak Research and Development Agency, Applied research on measurement of physiologic parameters

			of stress and smart wireless biomonitoring using on-chip technologies (APVV-15-0789), 07/2016 – 06/2020 – with R-DAS Ministry of Education, Science, Research and Sport of the Slovak Republic, Request for incentives, Research and development of automated data validation for enterprise and Big Data systems supported by AI (2018/14427:1-26C0), 12/2018 – 12/2021, with Datavard Partnership and research of Faculty of Informatics and Information Technologies with Industry At FIIT STU we have four kinds partnership with industry: 1. Join research labs, which are located at the faculty. In last 3 years: Capco, Molpir, Eset, Siemens Healthineers, Anasoft, Exponea, Syncularo. 2. Collaboration in industry research

			last 3 years: CEAI Slovakia, Ditec, Mentor Partners, MindIT, Molpir, Poštová banka, R-DAS, Seesame, Siemens Healthineers, Sli.do, Staffino, SWAN, uičľ, ZľavaDňa, Capco, Piano Media, Slovak Telekom. 3. Partners, last 3 years: AT&T, Eset, Sféra, Accenture, Asseco, ČSOB (KBC group), Softec, Unicorn, Continental, Exponea, QBSW, Tempest, Exponea, Kistler 4. Supporters, last 3 years: Accenture, Asseco Central Europe, Bizzdesign Slovakia, Creative Pro, CVTI SR, ČSOB foundation, DITEC, ERNI Slovakia, Exponea, Gratex International, Magix, Tatra banka foundation (Reiffeisen group), QBSW, Softec, Soimco, Spinet, Tempest, ui42, Unicorn Systems, VNET. 5. Labs used only for education: Cisco network lab, Digilab Samsung 6. UX lab used

			for UX tests by companies with our expertise, in last 3 years: ČSOB, ZľavaDňa, Poštová banka, ui42, ZSE, GFK, Diorama, 2 Fresh Slovakia d) STUBA Incubator – description University Technology Incubator of STUBA ("incubator") was established in 2005. From then incubator has supported in total 50 companies, from which 50% was from the field of ICT. Incubator has three main programs to support companies: 1. Program Startup Office 3 months which focuses on support for university students and graduates who have an interesting innovative idea and are considering setting up their own company. 2. Program InQb 3 years is business startup support for startups that havealready been established. 3. Program InQb

			Connect which aims to onnect the university with commercial firms to support research and development To achieve its goals, Incubator cooperates for example with ESET, Grow with Google, Dell, Slovak-American Foundation, SAP, Slovak Centre of Scientific and Technical Information. e) STUBA is trying to reflect the needs of the practice by introducing the opportunity to influence the themes for theses. In Faculty of Electrical Engineering and Information Technology are several themes for theses as collaborations with industry: in 2017 – 14 Bachelor´s Theses, 9 Master´s Theses, 5 PhD´s Theses, in 2018 – 27 Bachelor´s Theses, 9 Master´s Theses, 6 PhD´s Theses and in 2019 – 25 Bachelor´s Theses, 14 Master´s Theses and 11 PhD´s Theses. In Faculty of

			Informatics and Information Technologies, 69 out of 549 bachelor theses and 38 out of 387 in diploma theses were led by supervisors from industry.

	field, b) Have experience with setting up spinoffs together with industrial partners (cf. also 2 b)), c) Have experience in working together with industrial partners in cooperative research projects, both European projects and nationally funded projects, d) Render specific services by the academia partner to start-up companies and incubation initiatives, e) Work together with industry for theses.	b) Have experience with setting up spinoffs together with industrial partners (cf. also 2 c)), c) Have experience in working together with industrial partners in cooperative research projects, both European projects and nationally funded projects, d) Render specific services by the academia partner to start-up companies and incubation initiatives, e) Work together with industry for theses.	
5	The research institutes need to have European wide contacts and are part of the relevant European networks, such as the European Technology Platforms (ETP) in the field of ICT. In particular the research institutes need to have participated in European cooperative research projects. A participation will only be considered as relevant if, for the last three years, the academia partner can demonstrate an ongoing participation in at least 10 European projects, such as FP projects, ITEA Projects, Celtic	The Universities need to have European wide contacts and are part of the relevant European networks, such as the European Technology Platforms (ETP) in the field of ICT. In particular the academia partners need to have participated in European cooperative research projects. A participation will only be considered as relevant if, for the last three years, the academia partner can	H2020 projects: 7. NEWTON - Networked Labs for Training in Sciences and Technologies for Information and Communication, duration 2016 – 2019, 8. IoSense - Flexible FE/BE Sensor Pilot Line for the Internet of Everything, project number: 692480, duration: 2016 – 2019, 9. CONNECT - Innovative smart components, modules and appliances for a

	Projects, Artemis or Eniac Projects.	demonstrate an ongoing participation in at least 10 European projects, such as FP projects, ITEA Projects, Celtic Projects, Artemis or Eniac Projects.	truly connected, efficient and secure smart grid, project number:737434-1 - ECSEL-RIA, duration: 2017 – 2020, 10. 5G_GaN2 - Advanced RF Transceivers for 5G base stations based on GaN Technology, project number: 783274 - ECSEL-RIA, duration: 2018-2021, 11. HiPERFORM - High performant Wide Band Gap Power Electronics for Reliable, energy eFficient drivetrains and Optimization thRough Multi-physics simulation, project number: 783174 - ECSEL-RIA, duration: 2018-2021, 12. OSIRIS - Optimal SIC substRates for Integrated Microwave and Power CircuitS, project number: 662322-ECSEL-RIA, project duration: 2015 – 2018, 7FP: TEMPO - Training in Embedded Predictive Control and Optimization, project number: FP7-PEOPLE-2013-607957, duration: 2014-2018, NATO project: Secure Communication in the Quantum Era, project number: NATO SPS G5448, duration: 2018- 2020,

			ENIAC 1. SAFESENS - Sensor Technologies enhanced safety and security of buildings and its occupants, project number: 621272-2, duration: 2014 – 2017, 2. E2COGAN - Energy Efficient Converters using GaN Power Devices, project number: 324280-2, duration: 2013 – 2016, 3. eRAMP – Excellence in Speed and Reliability for More than Moore Technology, project number: 621270-2, duration: 2014 - 2017
6	Research Institutes need to contribute to added value to the KIC EIT Digital not provided by other members. This can be represented for example by (but not limited to) contributing one or more a) competences b) market know how c) experience of business models d) a role in the ecosystem which are valuable to the Strategic Innovation Agenda. The Strategic Innovation Agenda, as updated on a yearly basis, will indicate which competences, know how and	Universities need to contribute to added value to the KIC EIT Digital not provided by other members. This can be represented for example by (but not limited to) contributing one or more a) competences b) market know how c) experience of business models d) a role in the ecosystem which are valuable to the Strategic Innovation Agenda. The Strategic Innovation Agenda, as updated on a yearly basis, will indicate which competences, know how and	STUBA with its wide focus on the digital field is able to contribute to all of the focus areas defined by the Strategic Innovation Agenda. The cross-KIC point of view provided by membership in the EIT Manufacturing will enable STUBA to contribute to the EIT Digital in areas such as Digital TECH and Digital INDUSTRY. Some of the research teams of Faculty of Informatics and Information Technologies and Faculty of Electrical Engineering and Information Technology are strongly oriented on collaborations with researchers from medical/biomedical area which provides valuable

			base for the focus area Digital WELLBEING. STUBA´s Institute of Management focuses on the area of Digital CITIES. Focus area Digital FINANCE is mainly interesting for STUBA regards for example blockchain and cybersecurity. Faculty of Electrical Engineering and Information Technology has recently founded Digital Innovation Hub Science City which main objective is to provide the activities related to services in area of digital transformation of society in area of Robotics, Internet of Things and ICT. This unique innovation centre will use the connection of higher education with research and business to support transfer of technology from research to practice, consulting and education for companies and society in area of digital transformation as well as dissemination of successful digital innovation projects to increase the interest of experts and general public in new technologies. It´s other objectives are to prepare and implement research and innovation projects and create partnerships with

			relevant organizations. Faculty of Informatics and Information Technologies is cofounder of Slovak.AI which is focused on research and cooperation of artificial intelligence among academy, industry and government. Dean of Faculty of Informatics and Information Technologies is the only representative from Slovakia in High-Level Expert Group on Artificial Intelligence (appointed by European commission). The High-Level Expert Group on Artificial Intelligence (AI HLEG) has as a general objective to support the implementation of the European Strategy on Artificial Intelligence. This includes the elaboration of recommendations on future-related policy development and on ethical, legal and societal issues related to AI, including socio-economic challenges.

	experiences are available in the Association and the competent bodies of the Association will make the evaluation of the contribution referred to above on the basis of the Strategic Innovation Agenda.	experiences are available in the Association and the competent bodies of the Association will make the evaluation of the contribution referred to above on the basis of the Strategic Innovation Agenda.	

C. Node

No.	Node	
1	In a specific area, there needs to exist a) An eco-system consisting of industrial partners and academia partners, b) Which industrial and academia partners have a proven track record in cooperation between them in the field of research, development and innovation.	
2	The group of participants needs to a) Be located in the specific area mentioned in item 1 and b) Have a campus available in such specific area, whereby at least two or three of the industrial and academia partners are physically working together.	
3	The activities of the majority of participants need to be characterized by a high degree of interaction, an important part of which is characterized by working in a co-location mode. Other participants in the node may cooperate in a more remote way.	

D. Cities Regions NGO's

No.	Eco-system (Cities Regions NGO's)	
1	An eco-system is defined as a relatively limited geographical location, however not restricted by country borders, where related activities in the field of education, research, innovation, supplies consistently take place. The existence of the eco-system should be reasonably demonstrated, for example by acknowledgement by the public authorities, by economical or scientific literature. In particular the KIC Partners concerned should demonstrate that they can organize their activities in such a way that they are able to participate physically to the Node activities, or that they dispose a sufficient means of interaction to allow interoperability with the other KIC Partners in the Node.	