SUPPLEMENTARY MATERIAL for the ICORES-Paper “A Methodology for Deriving Evaluation Criteria for Software Solutions” by Harald Papp and Marc Hanussek. This is the full table 2, where the paper had only an exemplary sample added in the Appendix.

Index Category	Question/criterion	Domain-specific formulation	Final List?	Justification	Rating Weighting Scale
1.1 Functionality	What added value does the IT solution bring to the business?	What added value does the IT solution bring to the business?	X	SMEs do not have the resources to experiment on a long-term basis (showstopper).	5 (3,8%) boolean
1.2 Functionality	What is the time to availability?	How long does it take for compute resources, trained models, or predict requests to be available or processed?	X	SMEs do not primarily use MaaS for time-critical applications.	2 (1,5%) intervals
2.1 Usability	Is the user interface intuitive?	Is the user interface intuitive?	X	Non-experts need intuitive UI.	4 (3,0%) Likert
2.2 Usability	Does the dialog only show user information related to the completion of the work item?	Does the dialog only show user information related to the completion of the work item?	X	Non-experts are otherwise overwhelmed.	3 (2,3%) boolean
2.3 Usability	How helpful is contextual help?	How helpful is contextual help?	X	Non-experts need help.	4 (3,0%) Likert
2.4 Usability	What is the training effort?	How-time consuming is it to apply the first ML models?	X	SMEs do not have the resources to experiment on a long-term basis.	4 (3,0%) Likert
2.5 Usability	Is there support for recurring tasks (e.g. macros; in MaaS context: pipeline)?	Can recurring ML flows be stored in pipelines and run repeatedly?	X	Rare use of complex pipelines.	1 (0,8%) boolean
2.6 Usability	Are there undo-features?	Are there undo-features?	X	It is customary and user-friendly to have this option.	1 (0,8%) boolean
2.7 Usability	Self-description capability: How useful and instructive is feedback?	Self-description capability: How useful and instructive is feedback?	X	Non-experts need help.	4 (3,0%) Likert
2.8 Usability	Self-description capability: Are there further inquiries for important operations?	Self-description capability: Are there further inquiries for important operations?	X	Non-experts are not as experienced as experts when it comes to serious decisions.	3 (2,3%) boolean
2.9 Usability	Is it possible to resume at the starting point after interruption?			In cloud context, it is typical for IT systems or services to run nearly perpetually.	
2.10 Usability	Is it possible to recover last deleted objects?	Can deleted workflows or ML models be restored?	X	Rare use of complex pipelines.	1 (0,8%) boolean
2.11 Usability	Expectation conformity: Are the comprehension requirements of the dialog consistent with the user's knowledge?	Expectation conformity: Are the comprehension requirements of the dialog consistent with the user's knowledge?	X	Overchallenged users are likely to make mistakes.	3 (2,3%) boolean
2.12 Usability	Expectation conformity: Is vocabulary used the user is familiar with?	Expectation conformity: Is vocabulary used the user is familiar with?	X	Familiar vocabulary is user-friendly and reduces the risk of maloperation.	3 (2,3%) boolean

2.13 Usability	Conformity of expectations: Are dialogues for similar work tasks designed similarly?			In our opinion, helpful tooltips (2.3) provide better assistance.	
2.14 Usability	Expectation conformity: Do system responses occur immediately?	Expectation conformity: Do system responses occur immediately?	X	This allows for immediate correction of incorrect user input.	3 (2,3%) boolean
2.15 Usability	Fault tolerance: How useful are display and explanations of input errors?	Fault tolerance: How useful are display and explanations of input errors?	X	Non-experts need help.	4 (3,0%) Likert
2.16 Usability	Fault tolerance: Is input data checked for validity and confirmed before use?	To what extent does the service check the incoming data for compatibility with the training phase?	X	Non-experts need help.	4 (3,0%) Likert
2.17 Usability	Customizability: Are settings adapted to specific needs and capabilities of the user?	Is prior knowledge of machine learning adequately addressed?	X	Typically, considered SMEs do not have multiple users with varying knowledge of machine learning.	1 (0,8%) boolean
2.18 Usability	Customizability: Is adaptation to language, knowledge, cultural peculiarities (e.g. key-binding), motoric skills and perceptual capacity of the user possible?			Machine learning is a field which is deeply penetrated by English language and conventions.	
2.19 Usability	Customizability: Can output be presented individually?	Can results be displayed differently, for example by different error measures?	X	Too detailed for the beginner.	2 (1,5%) boolean
3.1 Costs	What are one-time vs. ongoing costs?	What are one-time vs. ongoing costs?	X	Generally, SMEs are cost-conscious. This not only applies to one-time costs but also to ongoing costs.	4 (3,0%) numeric
3.2 Costs	What is the total cost of ownership (TCO) for the IT solution?	What is the total cost of ownership (TCO) for the IT solution?	X	Limited budget.	4 (3,0%) numeric
3.3 Costs	What is the near-term vs. long-term Return of Investment?	What is the near-term vs. long-term Return of Investment?	X	Financial lean period due to limited reserves inappropriate.	4 (3,0%) intervals
4.1 Performance of the IT solution	Does the IT solution run at decent speed on standard local hardware?			No installation of software needed.	
4.2 Performance of the IT solution	What is the handling time?	How much time does the training of the models take?	X	SMEs do not primarily use MaaS for time-critical applications.	2 (1,5%) intervals
4.3 Performance of the IT solution	Reliability: Does the system deliver correct results?	How is ensured that the system learns the right thing?	X	Non-experts otherwise overestimate the capabilities of the application.	5 (3,8%) Likert
5.1 Requirement of manpower and knowledge/ability	Does the IT solution require a high level of manpower (including rare knowledge/skills)?			In MaaS context, users can decide on their own, how much manpower they want to put into the tool.	
6.1 Scalability	Can the IT solution increase its output by adding additional resources (typically	Can the service scale hardware sufficiently to create more powerful models or	X	Data volume does not change dramatically in SMEs over time.	2 (1,5%) boolean

	hardware) to handle the increased load?	handle more predict calls?			
6.2 Scalability	Further development: Can the existing solution be further developed?	Can trained models be refined manually?	X	No ML experts available in SMEs.	1 (0,8%) boolean
6.3 Scalability	Testability: What is the effort required to test the modified software?			Updates and patches in cloud environment are backwards compatible and automatically installed on service side.	
7.1 Agility, flexibility, adaptability	Can the IT solution be easily and quickly adapted to new requirements (e.g. without programming)?	Can the IT solution be easily and quickly adapted to new requirements, such as more data points or attributes?	X	Data type does not change dramatically in SMEs over time.	2 (1,5%) boolean
7.2 Agility, flexibility, adaptability	Modifiability: What is the effort to perform improvements, troubleshooting, or adapt to environmental changes?			Elimination of errors and improvements in cloud environment are automatically carried out on service side.	
8.1 Modularity	Does the IT solution have a modular or monolithic architecture?			Users do not maintain or extend the product.	
9.1 Serviceability	Is it easy to install, operate, maintain, and upgrade the IT solution?			Maintenance, upgrades and running are performed as a service by the cloud service.	
10.1 Portability	Is it possible to transfer the software to another system environment?			MaaS tools are accessed through a web browser, hence no transfer of software is needed.	
11.1 Interfaces	Does the IT solution offer open or proprietary interfaces to connect to other IT solutions?	To what extent does the IT solution provide open or proprietary interfaces to read data or receive predict calls?	X	Interfaces make the MaaS application user-friendly.	4 (3,0%) Likert
11.2 Interfaces	Can machine learning models be exported?	Can machine learning models be exported?	X	No ML experts available in SMEs that maintain models locally.	1 (0,8%) boolean
12.1 Interoperability	Can the IT solution work easily smoothly with other IT solutions (e.g. through standard interfaces and data models)?	Can the IT solution work easily smoothly with other IT solutions (e.g. through standard interfaces and data models)?	X	Own interface development is too complex.	4 (3,0%) Likert
13.1 Multi-client capability	Does the IT solution offer the ability to set up multiple clients (such as company codes) that can run independently?	Is it possible to create multiple parallel ML workflows and/or train models independently of each other at the same time?	X	No ML experts available in SMEs.	1 (0,8%) boolean
14.1 Cloud capability	Can the IT solution be operated as a private or public cloud solution (Software as a Service, Platform as a Service)?			Obviously, we consider only cloud services.	

15.1 Maturity, reliability, fault tolerance	How mature, reliable, or fault-tolerant is the IT solution (e.g. restart without data loss after failure)?	How mature, reliable, or fault-tolerant is the IT solution (e.g. restart without data loss after failure)?	X	No resources to deal with ever-changing platform conditions.	5 (3,8%) Likert
15.2 Maturity, reliability, fault tolerance	How proven is the software in the short-term vs in the long term?			MaaS solutions are in continuous change and brisk adoption by practitioners was not long ago.	
16.1 Sustainability	Will the IT solution be further developed and supported by the IT solution provider in the medium to long term?	Are new ML features like new model types added?	X	Standard procedures are sufficient.	1 (0,8%) boolean
16.2 Sustainability	How frequency are there updates?	To what extent is support provided?	X	Support cannot be provided independently.	4 (3,0%) Likert
16.3 Sustainability	Are new features or bug fixes implemented?	Are new features or bug fixes implemented?	X	Standard procedures are sufficient.	1 (0,8%) boolean
17.1 Compliance with enterprise IT architecture	Does the IT solution meet the standards set by your organization's enterprise IT architecture?			The service is performed in an environment outside the company.	
18.1 Compliance with laws and regulations	Does the IT solution meet all relevant legal and regulatory requirements (e.g. principles of sound accounting)?	Does the IT solution meet all relevant legal and regulatory requirements (e.g. principles of sound accounting)?	X	Applies to any company (showstopper).	5 (3,8%) boolean
19.1 IT governance	Does the IT solution adequately support IT governance requirements?	Does the IT solution adequately support IT governance?	X	Even SMEs need basic IT governance aspects.	2 (1,5%) boolean
20.1 Information security	Does the IT solution's information security architecture provide adequate protection against information security threats?	Does the IT solution's information security architecture provide adequate protection against information security threats?	X	Applies to any company (showstopper).	5 (3,8%) boolean
20.2 Information security	Analysability: What is the effort required to diagnose defects or causes of failure or to determine parts in need of change?			Troubleshooting and maintenance are performed as a service by the cloud service.	
20.3 Information security	Are there versioning features and historical views of the data?	Are there versioning features and historical views of the data?	X	Standard settings are sufficient.	1 (0,8%) boolean
21.1 Data privacy	Does the IT solution adequately protect corporate data (personal data, customer data, intellectual property)?	Does the IT solution adequately protect corporate data (personal data, customer data, intellectual property)?	X	Applies to any company (showstopper).	5 (3,8%) boolean
22.1 Documentation and support for different languages	How good is the documentation of the IT solution for users and operators? In which languages is the	How good is the documentation of the IT solution for users and operators? In which languages is	X	Non-expert needs good documentation.	4 (3,0%) Likert

	documentation available?	the documentation available?			
22.2 Documentation and support for different languages	Is there a programmer documentation (description of source code)?			The majority of MaaS providers are private businesses operating with a view to gain, thus keeping source code private.	
22.3 Documentation and support for different languages	Method documentation: Are mathematical algorithms, technical-scientific or commercial methods properly described?	How well are the methods used (e.g. cross-validation) and AI algorithms or their results described and explained?	X	Non-expert needs help.	4 (3,0%) Likert
22.4 Documentation and support for different languages	Is required hardware, software, possible operating systems, standard libraries or runtime systems, installation, updates and deinstallation properly described?			No installation needed since this is performed as a service by the cloud service.	
22.5 Documentation and support for different languages	Is there a data documentation (formats, data types, restrictions, import and export interfaces)?	Is there a data documentation (formats, data types, restrictions, import and export interfaces)?	X	Non-expert needs help.	4 (3,0%) Likert
22.6 Documentation and support for different languages	Is there a test documentation?			Users generally are not concerned with software tests.	
22.7 Documentation and support for different languages	Is there a development documentation?			Users generally are not integrated in the development process.	
23.1 Innovative character	How common is the solution in the market?	How common is the solution in the market?	X	Users could get help in online communities if solution is widely used in market.	3 (2,3%) Likert
24.1 Manufacturer dependency	Does using the solution make you tied to a single manufacturer?	Does using the solution make you tied to a single manufacturer?	X	Changing the platform at your own request unlikely.	3 (2,3%) boolean