Please, provide further details about the full scope of the supply (Software, Services, Hardware) and the total duration of the project. Will the meters be purchased with installation work? Will the meters and the information system be a single object of purchase? If so, what is the meaning and economic justification for it? What is scope of tender - end2end with KPI? - delivery, installation, configuration, software, integration, performance based project contract until system ready. We would be interested to understand the architecture of the planned procurement - will it be all combined, or certain parts will be separated? Please elaborate the procurement strategy -planned components for Tender 1-3. How is your approach regarding responsibilities between the installer, IT system provider and the meter supplier? 3. Will ESO accept a consortium and possible carve out of contracts? Will you procure meters directly and deploy yourselves or looking at prime contractor outsourcing service model? The solution method: Software-as-a-service (SaaS), Smart-Metering-as-a-Service (SMaaS) and Infrastructure-as-a-Service (IaaS), which one you prefer most? What is structure of the procurement is planned (separately meters and IT or all together?) In case of choosing integrator what will be scope of his responsibility? What volume are you looking at? The strategy of MDM procurement. Describe the scope of procurement you are planning Is it planned to procure 1.8 million smart meters installation (hardware) together with data collection in some ESO database? Or do smart meters only deliver data through certain interfaces, and the database and integration will be separate procurement. Can you share detailed deployment plan and volume split between awarded parties for Tender1(if more then 1 awarded bidder)? Scope of tenders: - will vendor need to provide 1.8mln meters - time plan - different models and vendors expected to be included in the proposal (number) - Is it possible to bid during the procurement process only IT solution part? Will the procurement procedure be held in English? Will the technical specification be part of the Consultation? Will it be single tender for all amount or it will be divided into smaller tenders? Pirkimas bus vykdomas su skaitiklių įrengimu? 2. Pirkimas bus vykdomas etapais ar visas kiekis vienu pirkimu? Will be the supplier responsible for business as well as system integration and this part of the activities will be included into the procurement? Will consortium's of suppliers be preferred? Meaning, will Integrator´s, Meter Suppliers, Cellular Module suppliers, Connectivity providers, etc all have separate RFQ announcements or will all fall under one umbrella as different consortium's? - Are installation services included in the procurement process as a separate package? Are telecom services expected to be offered directly by network operators or through the service provider? Can we tender only to the head-end-system? How many meter suppliers will be selected for delivery? Will be selected only one prime vendor or more? Do you plan pilot tender or it will be whole roll-out plan tender? 2. Does the tender for NB-IoT smart meters will cover also HES/MDM system? 3. Will be only one supplier for meters or there is a plan for 3 lots (single, 3phase, 3phase CT) ? Will 1.8 million pcs of meters be tendered for one contractor? Or can be subcontracted to several contractors? Will you tender the solution as a whole or in individual parts? What strategies do you follow in the tender and what will be the criteria for awarding the contract? We suggest ESO to tender & procure the full IT solution HES/MDM + integrations to ESO Enterprisee Apps in a separate package. Is that your plan?. We also suggest that the HES/MDM provider size the required IT Infra (hardware + 3rd party software) and then ESO procure directly such infra from pure IT infra providers. Detailed scope split for the two expected tenders Will be selected one or more contractors? Do you intend to buy turn key only or seeking to maximise the price efficiency/ technical advantage by seeking to buy separately for example meters; SW platform, installtion HW such as antennas etc ? Will ESO look for E2E solution or source different components then integrate by 3rd party or yourself? Will only the lowest price be evaluated in the purchase results, will additional points be awarded for the additional functions / capabilities of the meter, etc.? Criteria for selection of provider - the most important expectations from ESO. Procurement process	Scope of program, procurement	The goal of the Smart metering program is to deploy Smart meter to every electricity consumers in Lithuania till the 2023and to those natural gas consumers who use more than 500 m3 of gas per year. We are planning to procure up to 1,8 mln electricity and up to 0,12 mln gas meters. Planned procurements in 2018 Tender 1 E meters, HES, MDMS; Tender 2 communication services; In 2019 Tender 3 Meter Installation contractors; In 2020 Tender 4 Gas meters 2020; Tender 5 not decided with start date LMS/Analytics. About 80 per. of meter installation work will be done by ESO engineers and only up to 20 percent will be purchased (Tender 3). Deployment stages and quantities you may find on slide No. 8-9 of presentation. In 2018 is planned to start prequalification process of main tender for meters and systems to control them and collect data (Hes, MDM). All procurement procedures will be held and documents provided in English and Lithuanian. All companies can participate in this tender. The Procurement shall be conducted by means of CPP IS. Please refer to slide No. 28. Technical specification and final contract is planned to be prepared in 2019 I Q and be provided to prequalified participants. IT solution shall be provided as SaaS. Responsibilities will be defined in the tender documentation and contract. We are planning to procure one solution and sign with one prime contractor for Tender 1 scope. Joint ventures are allowed. Prime contractor can participate with subcontractors. In this procurement we will buy 1,8 mln meters, we allow different manufacturers for each type of meters, but no more than one manufacturer for each type (e.g. 1F,3F, 3F CT/VT). It is planned to use evaluation method – The Most Economically Advantageous Tender. The exact evaluation criteria and their weights are not decided yet and will be announced with final procurement documentation after prequalification stage. Also you can see timeline in the presentation, especially please refer slide No. 11 "Procurements strategy: components and tenders". For planned qualification requirements please refer to slide No. 26-27 Flexibility and scalability of IT solution for Smart metering is essential part of ESO strategy. ESO plans to upgrade Smart Metering IT solution to be able to support Loss Management system / Analytics (including Big Data & Machine Learning) and other functionalities needed in future. Even though, such topics as Big Data or Machine Learning may be interesting in later stages of the program, i.e. not earlier than 2022.

Deployment stages, quantities Eso vision for smart meter Eso time plan Eso team structure Describe your most important goals with the project. What is the scope, process and timescales for the procurement? Procurement timeline Tender timeline How can Foreign company participate in this tender? What kind of registration requirements will be needed to participate in the smart metering procurement Payment procedure? Terms and stages? Please, explain Smart Metering vision and the goal to be achieved. Questions about scope, timing and security. Are there any plans to adopt Big Data & Machine Learning analytics as a part of smart meters deployment project (-s)? Will be acceptable for ESO that the solution includes LSM/Analytics as module of the MDMS? Still can Analytics module can benefit from ESOS data systems such as WFM, etc		
What are the schedules for delivery of meters, billing and other contract terms according to the planned contract? In your presentation we see there are one month from receiving specifications to delivering the first answer. Can you please confirm that the answering time is one month. The reason for asking is that one month (4 weeks) is not very long time to answer a tender as advanced as we expect yours to be, This is also in April with easter and some mandatory holidays, which can make it difficult to ensure full staffing in the entire month. No matter what, we will of course deliver answers but we are afraid it will eventually affect the quality and customisations of answers to your questions and hence your ability to do a fast and precise evaluation. In our experience ten weeks is optimal, eight weeks is a compressed time schedule, less is crating concerns as mentioned above. Extension of the timeplan will always be nice, but the best is to know we have sufficient time from the beginning so that we can plan answering accordingly. What is the timeline (deployment of smart meters and implementing an MDM solution)? Time line of the project. We would like to know technical requirements but also timeframes/schedules of the whole process of smart metering implementation. Describe your timetable for procurement and project When is it planned to launch a tender and run a project? How long is the project expected to last? Will the whole solution be released at the same time or will it be executed in stages? Will there be any trials/pilots/POCs before deployment in 12/2019 and when? Time frames of the project implementation? How does project roll-out dates looks like? What is the timeline for deployment? When to announce RFQ, When to do field tests, when to start sharp roll-out, by what date should all 1.8 mill meters be deployed? Time planning for the Project: award date, delivery of first units date and first instalations date. Number of meters to be installed in the first instalation date. What is a time horizon and intermediate stages of the smart meters deployment project? More detailed RFP and deployment schedule We will listen carefully about the procurement and timeline. Is there a clear deadline for submitting sample meters that meet full purchasing requirements? When you will have delivery schedule? it's important for producers the smart gas meters. According to provided indicative timeline, “Initial tenders” should be provided within one month after 2nd tender conditions are submitted to prequalified participants. We like to propose to extend the preparation time to submit “Initial tenders”. By extending the submission deadline will give suppliers more time to finalize high quality tenders. High quality tenders will be more comparable with each other’s and will give good base for future negotiations. We like to propose to reserve 2-3 months to submit “Initial tenders”. Final tender is scheduled 20.7.-20.8.19. That period is not suitable due to vacation period. It will be most probably required extension.. Detailed timeline for tender process and installation of smart meters Target deployment milestone and specific commercial terms. Timing of rollout	Timeline	We plan to announce Tender 1 by the end of October. Procurement procedures could last for about one year in the October 2019 contract to the Prime contractor will be awarded. First stage will be prequalification stage. It is planned to last till the end of 2019QI - when technical specification and final tender documents will be provided to qualified participants. It is now specified that answering time is one month after release of technical specification, but we will consider extending answering period and exact time will be announced with final procurement documents and technical specification in 2019QI. IT solution is planned to be implemented in 2 stages: 1 stage 2020 06 - basic functionality which would allow us to start mass installation and billing processes; 2 stage 2021 H2 - full functionality. Sample meters may be required and the exact dates will be announced with technical specification in 2019QI. This should be not earlier than 2019 QIII. Mass roll out is set to start in 2020 06 and finished in the end of 2023. More information regarding deployment stages and quantities you can find on slides No. 8-9 For more information please refer to presentation especially slide No. 12 "Program milestones" and for detailed procurement timeline slide No. 24 "Procurement timeline".
Procurement criteria What are the economic - qualification requirements for suppliers?		

Participants reference requirements Please clarify which will be the eligibility criteria to take into account in this procedure. How many companies will be awarded with supply contract? What is tender evaluation criteria What shall be qualification requirements and experience to the vendors? 2. Shall the final product including all certificates be required together with the offer or within some period of time after the contract is awarded? How many suppliers do you wish to short list in the upcoming process and based upon which criteria would you like to short list? How many bidders does ESO plan to prequalify? Understanding of procurement rules and evaluation of tenderers and tenders Will the initial qualification for the participants be announced, excluding technical subjects? If so, what qualification requirements will be imposed on the supplier (economic indicators, experience, etc.)? Will the KPI factor be assessed? If so, how will the limits of liability be defined in case of non-acquisition of KPI? Will ESO accept..?: • to carve out limited and well-defined areas from the Primer Contractors's contractual liability under T&Cs required by ESP for failures in sub-contractors' delivery such as meter units (for example, if the Partner is not a meter unit manufacturer, a carve out could be made in respect of liability for faults in the meter units. • well-defined alternative purchase structures for Field Meters. In case that the Prime Vendor is not a meter Manufacture i.e. SW Vendor or System Integrator. Could the possibility for ESO to purchase the meters directly from Meter Manufactures being still a Prime contractor responsible fro the E2E solution and performance? In the reference, 600000 units are required. Must it be with "CE" mark? Can our Chinese Smart Meters reference be used? For the pre-qualification application submittal (on 15.12.2018) for the 1stprocurement (T1): o Can bidders submit proposals using (besides 'Cellular/P2P' i.e. NB-IoT) combined telecommunication technologies (like eMTC/Cellular + Wi-SUN/RF-Mesh)? Will be required solution interoperability (between different meter vendors)? In the reference, 600000 units are required. Must it be with "CE" mark? Can our Chinese Smart Meters reference be used?	Qualification, procurement	Tender 1 for meters and their control and data collection system (HES, MDM) will be announces in 2018 October. First stage will be for prequalification - you will find detailed information on qualification requirement. Preliminary qualification requirements are shown on slides No. 26-27. Prequalify all companies which fully meet the qualification criteria. Joint ventures are allowed. Subcontractors are allowed. Evaluation method of technical proposals – The Most Economically Advantageous Tender. The exact evaluation criteria and their weights are not decided yet and will be announced in 2019QI with final procurement documents and technical specification. It is plan to award one company with contract for whole Tender 1 scope - as Prime contractor. All experience requirements will be based on meters with CE mark. Interoperability will be required.
Would the potential scope of the procurement procces be E2E solution or met We would like to clarify that whether the tender will include meter, HES and MI It is understood that the client is going to award the full contract to one only tenderer, please confirm. In case the answer to above question is positive, please inform if there are any prefered form for the tenderes (prime contractor with subcontractors, a consortium, or othyer) In case the answer to above question is positive, please inform if there should be one only manufacturer of Smart meters in the consortium. The strategy of NB-IOT connectivity procurement. Will other commmunication protocols be allowed? Will ESO allow other communications such as PLC? Why IoT NB and not LTE Cat-M?. NB IoT is good option for water & gas smart meters but will not allow required data transfer for implementing an advanced electric smart metering solution. Which telecomunication tecnologies will be required? Have you decided on NB-IoT communications or looking at also other new cellular one like LTE catM? What particular challenges the current solution encounters to migrate to NB-IOT? 5. What's NB-IOT coverage rate in Lithuania? Will ESO consider combination of different technologies? It is NB Iot the only Comms required? Preferred kinds of communication Cellular communication tender: - are services from more than one operator (operator redundancy) required? - any specific technology required to avoid operator lock-in (multi-IMSI, eSIM, etc.)? Does the customer accepts different form of communication than NB IoT, for example GPRS/3G, PLC? Nbiot has been designed mainly for battery operated devices. There are other new cellular technologies, like LTE cat M, which offer similar benefits in terms of low cost and penetration but has better latency and bandwidth. Why not using that instead or in combinartion like USA is doing or here in Europe Sweden is looking at? Will all the smart meters be deployed with NB-IoT or other communication technologies? NB-IoT is still new fashion in Lithuania, do operators support this standard? What is telecommunication technology selected? Why? 3. Was there already pilot project for exactly this technology in Lithuania? What were main advantages and disadvantages of it?		NB-IoT technology is our strategic choice for

• What is the estimated counters' distribution in regards to coverage, i.e. which part will be in good, average, bad, extremely bad coverage conditions? Extremely bad means extended coverage requirement, that is , locations where standard terminals don't work. Will the local MNOs support B3 for NB iot? The NB-IoT technology is basically based on dynamic IP addresses. How does ESO plans smart metering management in terms of IP addresses? Maybe you are talking with mobile operators to specifically set up for ESO dedicated APN, within which IP addresses will be considered static? Does an analogous concept is planned for a pilot project? Will it be implemented LTE CAT1 together with NB IoT? The communication system that will be used (PLC, RF mesh/ LTE etc ? In what frequency range ? Will NB-IOT be embedded in meter or top-head the meter? The communication cost getting meter data out of areas where there is no p2p/cellular coverage often cause unexpected cost and efforts. Do you have a plan and a technology for the unreachable 5-10% ? Would you be open for adjacent communication topology for solving this with lowest TCO ? I agree with the huge challenge on the every 15 min communication intervall on NB-IoT. Since the bandwidth is very limited on NB.IoT and in remote areas can be only a few Kb/sec speed level. This will mean high latency and limitation on sending bigger files, data strings. You could for example possibly not update the meter SW if needed remotely since the bandwidth is too low. You also need to think about what to do on the edge (the metera) and what to do in the back end (IT Systems) Actually the better technology with more flexability is LTE-Cat-M. It has all the benefits in coverage, penetration, price, power consumption. Same as on NB-IoT. But the good thing about LTE Cat-M is that the bandwidth is higher and it also supports roaming (meaning you could also invite MVNOs to the connectivity tender). It´s also more flexible since it comes from legacy LTE systems as NB-IoT was from the start a propriatary Huawei technology. Have you tested the load, specifically multiple meters within a single RBS sector? NB-IoT is a narrowband solution, and 15 min. data exchange period combined with millions of meters might overload anything that NB-IoT is designed to provide. Would CAT-M suit this better? It also has extended coverage option, and battery saving is not an issue in electricity meter case. Ernst and Young is running serial workshops in European utilities explaining GDPR and Internal Electricity Market Directive with comparison of alternative technologies for low-voltage smart metering in terms of security and standardisation of security solutions and as a conclusion fully recommends BPL as recommended technology to meet legislative demands. Are you convinced that new and not proved NB IoT technology is secure technology for ESO? BPL is going through standardisation process G.Hn for Smart Grid sponsored by EON, Iberdrola, Renesans, MaxLinear as they found that narrow band is not sufficient for smart metering projects anymore. Don't you consider to open RFP for BPL technology as mature and proven technology for Smart metering? In some countries utilities find beneficial BPL as it can be used for Voltage, Damping and Frequency monitoring as additional benefit through Powerline communication for network planning and network operation. In many cases additional value of BPL enables DSO to get part of cost accepted by regulator, will ESO work on such cases in Lithuania ? Did you consider alternatives to the cellular based NB-IoT wireless technology for smart meter communication? Do you already have a deployed NB-IoT network covering all the relevant areas in Lithuania? How do you plan to support the eUICC feature as NB-IoT doesn´t support roaming between operators? Meaning NB-IoT as of today only support one country, region, operator. You can´t change after deployment. Maybe in next gen NB-IoT (NB2) then it might be possible but GSMA, 3GPP standards not set yet. I agree with the huge challenge on the every 15 min communication intervall on NB-IoT. Since the bandwidth is very limited on NB.IoT and in remote areas can be only a few Kb/sec speed level. This will mean high latency and limitation on sending bigger files, data strings. You could for example possibly not update the meter SW if needed remotely since the bandwidth is too low. You also need to think about what to do on the edge (the metera) and what to do in the back end (IT Systems). Actually the better technology with more flexability is LTE-Cat-M. It has all the benefits in coverage, penetration, price, power consumption. Same as on NB-IoT. But the good thing about LTE Cat-M is that the bandwidth is higher and it also supports roaming (meaning you could also invite MVNOs to the connectivity tender). It´s also more flexible since it comes from legacy LTE systems as NB-IoT was from the start a propriatary Huawei technology. Does ESO accept another communication devices for meters?	Communication technology	communication. As was presented at the event, one of our goals is to become a leading country in Europe in the field of Smart Metering, therefore, we see that innovative technologies like NB-IoT or LTE-M are more suitable for us to fulfil all necessary functionalities and business needs in our project. We considered BPL and PLC variations and concluded that these communication technologies have more risks, e.g. noises in power line furthermore PLC does not fulfil our business strategy to have future proof solution, especially for the possibility to integrate other IoT devices into our IT solution. Cellular technologies are better solution for quick installation work as we can choose most effective installation routes without a need to install meter one by one in a specific region. We are aware of the maturity of NB-IoT and we will be testing remote configuration, parametrization and firmware upgrade to see if only this technology can deliver the needs of ESO, we do not underestimate variations, e.g. double communication module supporting NB-IoT and LTE-M. ESO sees network throughput and lack of eUICC support as main challenges while adopting NB IoT. NB IoT is being enrolled, no coverage maps are available, but telcos warrant full coverage. It is planned to buy Smart meters with embedded SIM cards (eSIM) which support eUICC technology to be able to change operator profile without visiting meter onsite ("other the air"). Embedded SIM cards are planned to be included in the scope of telco procurement. B3 is supported and may be used on border zones. ESO intention is use dynamic IP addresses or at minimum system must be capable of operating with dynamically allocated meter IP addresses. Requirement is based on security, resilience and operational considerations. Dedicated APN will be used.

Will the maximum purchase price (budget) be announced? Budget for energy meters What is planned budget of the tender which will be announced in Oct2018 (Integrator services)? What is the project / program and separate procurements budget? Project funding sources: own funds, EU funds, etc.? If the project is partly funded by the EU, which program, when are the deadlines for submission of applications and the deadlines for taking decisions?	Budget	Budgets of procurements are not planned to be announced seeking to ensure open competition among tenderers. Investments of the program will exceed 200 mln. EUR. EU funds partial financing may be considered for Gas meters. Deployment of smart gas meters is planned no earlier than 2022. So far CBA for Gas meters is being prepared.
Will only one meters provider be selected to perform the pilot project for smart metering or several will be invited ? You mentioned today that there will be a pilot for 100 meters with nb Iot. When this shall happen? Is this going to delay the launch of main tender? For the pilot-tender to be issues in the coming days for 100 meters: o Can bidders submit meters using (besides NB-IoT) a combined communication technology (e.g. eMTC/Cellular + Wi-SUN/RF-Mesh)?	Nbiot test (pilot) procurement	We invite all meter manufacturers to participate in the NB-IoT testing tender, but the contract will be signed only with one. NB IoT pilot tender was announced 1st October. Meters must be based on NB-IoT communication, number of meters is not fixed to 100 pcs. Please find more detail info in the tender announcement https://cvpp.eviesiejipirkimai.lt/Notice/Details/2018-699991 (English version of documents will be provided
Technical requirements Detailed technical requirement and discussion Also some overview of business processes with your specifics that will be covered by this project will also be appreciated.	Technical specification documentation	The final technical specification is planned to be provided in 2019 QI. You can find latest technical requirements for meters and some information on IT technical specification in Previously announced market
When will be ready technical requirements for smart gas meters. When you would like to have eligible smart gas meter? Are you going to test internal these smart gas meters? If yes. How long it could be? Is the 18 year lifetime also planned for Gas meters? Is the smart gas meter project abandoned? If the answer is no, is ESO aware of the risk to make a project for IT solution without already specifying which gas meters have to be integrated? How can a bidder to take part to the project without knowing which gas meter to integrate or without knowing that a smart gas meter has to be integrated? Gas meters integration into the existing IT platform - compatibility. When will be the of the procedure for tender for the gas meters, I mean when producers will know that their smart gas meters are conform with the requirments.	Gas meters tender	We are planning to start procurement for smart gas meters in 2020. Technical specifications should be available with procurement documentation in 2020. We may need to test internal smart gas meter. We have no information available yet about any testing details. We plan that gas meters should have lifetime of 18 years. It is based on one metrological period of twelve years, plus 6 years one extended period. ESO is not focusing on them at this stage of the program, they will be procured later. IT systems must be able to accommodate EU certified gas meters supporting DLMS/COSEM protocol.
When ESO refers to IDIS, is that referring to IDIS package 2? DLMS /COSEM certified and IDIS compliant are required. DLMS/COSEM can be proved by the DLMS certificated. How can we prove the IDIS compliant? Curently NB iot does not support cosem dlms. How you will specify requirements if that will not be solved until tender publishing? How you will assure idis compliant if no certification is needed? How you will prove that it is idis compliant? After contract signed it will be impossible without canceling project (competitors complains or your testings).	IDIS, DLMS/COSEM	At present moment IDIS package 2. Later possibly Package 3 and later versions. Detail technical documentation about DLMS/COSEM and NB-IoT will be present with procurement documents. If meter is IDIS compliant will be determined from IDIS test report from competent independent organization.
Are cloud offerings accepted (for MDM; datacentre i the EU)? ESO in July made an RFI for cloud platform: have they excluded this option or IT solution include also this option? Do you prefer an on premise solution for an MDM/MDC or a cloud based solution? Would Saas or Metering as a Service required? Is it correct that the HES/MDMS system has to be provide as SaaS? If that is the case, Has the SaaS System to be located in Lithuania or can it be in any other EU country? Can the solution be implemented on-premises or you demand the cloud implementation? If the cloud, is it possible to use cloud infrastructure out of Lithuania territory and could the collected data leave Lithuania as well?	SaaS	ESO is considering SaaS only, data must reside within EU
How you will be evaluating the need of IT infrastructure for proposed solutions, in case it is not asked to deliver? If SaaS delivery model will be possible to offer how participants will show it has enough performance to take all necessary load? Architectural scheme has HES component showed. Is it possible to offer other technical solution without HES? How the supplier should prove that the solution is working - is an integrated solution? Do you plan to follow EU standards/ best practices for P2P technical requirements? More detailed MDM system scope, have specific questions in this area		ESO is considering SaaS only, providers will not be asked to prove conformity, providers will be asked to meet contractual obligations (KPI/SLA). Solution can be offered without HES as a component, but required functionality must be present in provided system. All the suppliers will provide proposals with detailed information on every requirement of the ESO technical specification. Also test reports must be included, which would show that all solution meters+HES+MDM is working as required. As one Prime contractor will be awarded for Tender1, he will be responsible to demonstrate working solution. Also for the proof of IT solution capability, references shall be provided in prequalification process. Yes we follow all EU standards and best practices. MDM high level scope is: VEE, Metering point management, Service control, System operations, Prebilling, Event processing, Integration with ESO in-house systems. More information provided on slide No. 15 "System functions"

How technical requirements for smart metering systems was ascertained?		ESO has been working extensively with Consultants and followed the best practices in other countries, reviews various RFPs and technical requirements and intensively analyzed all the standards and companion specifications, including but not limited to the documents prepared by SM-CG, SG-CG, ESMIG, NIST, DLMS/COSEM, IDIS and etc.
How is quality assurence of smart meters embedded in the procuement processs and deployment plan?		All the participants in the tender will be required to provide certifications needed for Smart meters, operational reports and etc. In addition, ESO plans to test the samples (with partial functionality) of Smart meters during the procurement procedures and participants will be asked to demonstrate End-to-end solution with selected list of Use Cases. Furthermore, after the contract is signed full compatibility demonstration shall be done.
Will the buyer assist test of LTE Cat NB1?		Yes, ESO will assist in communication test.
Which IT integration partners do you work with today? - Which existing IT systems are you planning to keep? - What do you see as the biggest challenges with integrations?		We are planning to keep Billing, Tevi, ESB. More information on partners will be provided in later stages of procurement.
How do you intend to fulfill interoperability features between different Meters and DC's? By assuming ESO is looking for NB-IOT could you elaborate on which application layer are you going to proceed? Which are the Northbound system will be integrated (Billing System, WFM, GIS, SCADA) and which of them are already existing? Did you plan a system integration activity done through an Enterprise Service Bus? By using NB-IOT technology a Telco operator will be strongly needed could you elaborate how do you intend to proceed?		DC will not be used, meters will use native HES. ESO concept is to use DLMS over UDP with NB IoT. All system integrations will be done using ESB. More information provided on slide No. 15 "System functions"
level of Importance of open platforms and standards - which are the key services you want to put in operations - what are the expected benefits for you as providers and for your customers		ESO will only use industry accepted standards and protocols.
Is it decided which KPI will be applied to the smart metering data systems?		KPIs and SLAs are being formulated, they will apply to data transmission speed and quality, data processing speed and quality.
In the initial consultations, ESO staff expressed the view that the smart NB-IoT meters will need to be using the CoAP (Constrained Application Protocol) communication protocol. There is no such requirement in the published preliminary technical terms of the pilot project. What is the current position of the ESO regarding the use of the CoAP protocol?	Technical specification	ESO has no intention to specify CoAP as a working protocol.
In the initial consultation, ESO staff have expressed the view that smart meters must have and maintain eUICC (i.e., a reconfigurable electronic SIM card) to allow mobile operators to be changed remotely. What is the current position of the ESO regarding eUICC support?		ESO position has not changed - eUICC must be supported.
What technical requirements are there? what consumer engagement / smart energy links are there?		Comprehensive document with all needed technical requirements will be provided in 2019 QI for the selected participants after the qualification phase. For the qualification phase ESO plans to share the scope of works for Smart metering project including key technical points. Consumer portal (IT solution with all its capabilities including visualization of 15 minutes data from its capture) and DMSR P1 port (e.g. for energy management gateway / other HAN devices) in Smart meter is planned to support future Smart energy capabilities.
Full planed technical solution and possible ways forward connective vise.		Technical specification will be released in 2019QI. We cant provide more information at that stage.
Supported billing system		Custom system is used for billing. REST or SOAP web services, Oracle DB link are used for the API integrations. REST service is preferred.
IT - expected time plan for required licenses - Is all HW and SW required for IT systems - number of integration points and number of systems to be integrated - how many years of support and maintenance are required		Technical specification will be released in 2019QI. We cant provide more information at that stage.
How often electricity meters will transmit data to the data collection system and how often this system will contact the electricity meters. Is it planned how much data (an average) monthly meter will send and receive?		ESO is planning data push from meters each 15 minutes, no scheduled data reads are planed. ESO has estimate that each 15 minute data push will be up to 100 bytes.
What is the application and technology requirements for the smart meter roll-out? NB-IoT is a low bandwidth technology. Meaning the smartness of the electricity meter will be limited.`How often will the meter connect, what is the data/application that will be transferred? -		
Must the head-end-system manage the complexity of manage multiple smart meter manufacturers at the same time?		ESO is planning to use meters with a native HES.

Will be acceptable for ESO that the solution includes LSM/Analytics as module of the MDMS? Still can Analytics module can benefit from ESOS data systems such as WFM, etc.		All the suppliers shall meet the qualifications requirements which will be provided in end of October 2018 together ESO will provide a description of IT solutions scope in high level with key points needed for Smart metering. Detailed technical specifications will be provided in 2019 QI so all the suppliers will need to answer / comment on the requirements provided in the document. For the proof of IT solution capability, references shall be provided. Flexibility and scalability of IT solution for Smart metering is essential part of ESO strategy. ESO plans to upgrade our IT solution to be able to support Loss Management system / Analytics and other functionalities needed in future. More detailed description of Smart Metering IT solution scope will be provided within the 1st tender, when ESO announces the qualification phase.
Can you confirm that the Systems procured in phase 1 will have as focus on metering data handling but not business process execution and use cases orchestration?		Main focus of the procurement is systems that handling meter data, but business process integration, execution and orchestration must be implemented as per scope of procured systems
What frequency exactly will be used for narrowband IOT in your AMR system?		800, 900 and 1800 MHz
Would you consider the possibility to select a single system concentrating the Head-End and MDM related capabilities?		Yes we would consider a system that covers both sets of functionality
Do you interest in remote alarms and shutoff valve control?	Meters TS	Yes, we are planning to have remote energy disconnection functionality with our smart metering system. Alarms functionality also should be present. Meter should be able to push alarms on appearance to systems.
Does ESO accept foreign meters no from EU？What regulation has ESO？		Regulation are set by Republic of Lithuania and European Union. Contractor, meters, systems, service, security must comply with all regulations in EU and Republic of Lithuania. We will not accept meters if they are not compliant with EU regulations.
Can other DLMS COSEM or OSGP meters will be acceptable? If not, are only IDIS certified meters allowed for bid?		Meters should be DLMS/COSEM certified, and IDIS compliant. Contractor should provide us with DLMS/COSEM certificate, and IDIS interoperability test report from competent independent organization. OSGP meter will be accepted if it complies with all requirements including DLMS, IDIS, NB-IoT and any other enrolled in our technical specification.
Please provide the size (dimension) of the magnet which is used to test magnetic field strength impact.		Meters should be resistant to magnetic field from 300 mT magnet.
At what stage of procurement will be needed to deliver DLMS, MID and IDIS certificates?		IDIS certificate will not be required. IDIS test report from competent independent organization will be required. IDIS, MID and DLMS certificate - after tender winner announcement.
Will the SIM card be integrated or external in the meters?		We will require embedded SIM cards AND a slot for 2FF standard removable SIM card.
In our experience as antenna supplier for AMR projects since 2002, the need for external antennas during the pilot and in the beginning of the roll out is always underestimated. It has proven to be min 10% of the metering points independently what comms technology is chosen. The question: in case of ESO could antennas be a subject of a separate tender? If not, to which tender external antennas belong to?		Antennas will be procured together with meters in same tender (Tender 1). Amount of antennas will be specified in procurement documentation. Amount of external antennas will be smaller than amount of meters. External antenna is antenna connected via cable.
What is the estimated amount of data during each 15 min. session?		At minimum 50 registers (DLMS/COSEM objects).
Do all smart meters have to support prepaid mode on HW level?		No. Prepayment will be implemented on IT system level.
Does the ESO have a clear vision of what data (registers, profiles, event logs, management commands), what periodicity and speed will be required to be read from smart electricity (and gas) meters? Do you plan to buy electricity meters with modem support and LTE 1.8 Mhz band B3 in the future?		This information will be provided later in procurement stages with final technical specification (2019 QI) We are planning to use 800MHz LTE band as main, and possibly 900MHz and 1800MHz.
Which data will be required to MDM every 15 min? Is this data only the meter push data?		Meters should be able to operate in both - push, and pull methods. Data to be pushed every 15min will be set during meter parametrization.
"Last Gasp" By your information, the meter can work at least 7 days by super capacitor. But how many data will be sent within this 7 days?		Meter without voltage should support last gasp, RTC clock and cover opening detection.
What is the requirement of the power quality?		Meter should measure power quality parameters as required by meter technical specifications.
Will Smart Meter also collect and manage data from gas meter?		Gas smart meters will send data directly to HES/MDMS.

What a minimal IP protection level of power meters will be required (the degree of protection provided against intrusion - body parts such as hands and fingers)?		Meter should have physical protection features as required by meter technical specifications.
Requirement 44: Energy consumption per phase in current circuit: ≤ 0,5 W Question: Please, define current conditions for requirement (Ib, Imax). Please, define current conditions for requirement (Ib, Imax).		Meters should be tested according to EN standards, and should comply with MID requirements.
Requirement 50: Disconnection Relay UC3 Question: How many cycles are required? What disconnection condition will be applied for testing?		Please see requirements for UC3 relay.
Requirement 51: The meter must be resistant to 300 mT. Question Could you define a size of the magnet? It has the crucial influence on results.		Magnetic flux density should be 300mT. Magnetic flux density is not defined by magnet size.
Requirement 54: Through the optical communication interface… Question: Please, be more specific in the format of data you expected.		Here optical communication interface means meter reading and parametrization by using optical communication head.
Requirement 148: Load Management by Relay Question: Is not required?		At present moment - no. Will be clarified later during procurement with final technical specifications.
Who will be responsible for operating the solution?	Other	ESO will procure Prime contractor who will provide smart metering system (meters and IT solution). ESO will be responsible for AMM daily operation and use.
Do you have a preferred Telco partner for NB-IoT services that you wish to contract separately, to ensure lifetime support for the smart meter program?		No. There will be a separate telco tender announced.
In relation to emerging use cases on energy - that are eventually not completely defined yet - how do you foresee that the procurement strategy followed protects you from obsolescence in relation to future energy use cases?		Flexibility and scalability of IT solution for Smart metering is essential part of ESO strategy. ESO plans to upgrade our IT solution (or procure a separate solution if needed) to be able to support Loss Management system / Analytics and other functionalities / uses cases needed in future.
In order to identify the key attributes of the meters and associated software solutions have you followed a bottom-up (meter to process) or top-down (process to meter) approach?		Meter technical requirements are dictated by energy metering regulations in EU and Republic of Lithuania, ESO Processes and Smart metering Use Cases evaluated in Smart metering Mass rollout CBA.
How much were the retailer organizations involved in the process of defining the minimum set of use cases that they would like to ensure would be facilitated?		Benefits are identified and evaluated in CBA for smart metering mass rollout in Lithuania.
Have you had the opportunity to define the smart metering use cases that consumers would benefit from, once smart meters are rolled-out?		
As an electricity and gas utility company, has ESO taken into consideration the usage of a local communication hub to exchange information with two smart meters in the house of the end customer?		Yes, we considered it and conclusion is - P2P communication is much less complex than interconnected meters.
		Technical requirement will be prepared on the basis of various standards and companion specifications, including but not limited to the documents prepared by SM-CG, SG-CG, ESMIG, NIST, DLMS/COSEM, IDIS, CIM and etc.
Will ESO request open standards like OSGP and not exclude any? - Will ESO look for functionality to support the energy transition or only meter-to-cash? - Will ESO look at initial price per meter point or Return of Investment (ROI)? Background: quality and functionality will make the difference		Smart meters are considered to be as a foundation for Smart grid use cases and business processes, therefore, within the scope of Smart metering program ESO seeks for more benefits than traditional meter-to-cash process. For example, ESO is interested into power quality measurements and other capabilities to support better grid monitoring and etc.
		Tender will be a most economically advantageous type, so ESO seek for ROI.
Was it considered, to apply remotely readable meters, that would work with datavollectors / gateways (also IoT compatible), which would be able to integrate also another type of metering devices - for example for water and heat-metering? Assuming of course the cooperation between suppliers of each media type.		Yes, we considered it and conclusion is - P2P communication is much less complex than interconnected meters. In P2P case we avoid additional layer of infrastructure - data concentrators, hubs etc.
After listening to the LE CEO, I understand that being flexible and lean is important for you.		Flexibility and scalability of IT solution for Smart metering is essential part of ESO strategy. ESO plans to upgrade our IT solution to be able to support Loss Management system / Analytics and other functionalities needed in future.
I suppose it's going to be important to be able to build new software or buy 3rd party software e.g. for analytics.		More detailed description of Smart Metering IT solution scope will be provided within the 1st tender, when ESO announces the qualification phase.
What are you thinking of regarding data collection, storing and access?		Furthermore, there will be hot and cold paths to separate data analytics from operational data. Data lake with open APIs is also included / considered.
Will you have a big data lake with open API's?		
About the 15min delivery target. Do you vision to push the data to all customers in 15 minutes or just make it available for on-demand fetch?		Data push every 15 min
What functional differences you see in MDM and Datahub which lead to the need for two separate systems?		Separation between two systems is based not on the functionalities but because of the transparency in the market and political reasons. Main difference from the functional point of view is that market processes shall be implemented in Data Hub as metering related functions and grid maintenance shall be a base for MDM.
In most of the countries where datahub is implemented/planned it is due to the fact of multiple DSO's in the market.		