Yorkshire Water - Smart Metering Pre-Market Engagement

Questions to shortlisted suppliers

(Note this is not a formal procurement process)

Smart Metering experience / expertise

What **experience** does your business have **in delivering smart meter programmes, in the UK (and abroad)? Is this in the water sector and/or energy sector?**

Please provide details about the duration of your engagement, number or devices installed, size, location(s), technology variation / stack (e.g. AMR / SMETS1 / SMETS2) and sector for the projects you have done / been engaged with; what were your company's responsibilities; were you part of a partnership or consortium; etc.

Morrison Water Services (MWS) is a dedicated water sector services provider, with a turnover of £500m per annum and numerous long-term frameworks across the water sector client base, including metering services for Thames Water, Welsh Water and United Utilities. We also operate in the energy retail sector, installing SMART meters with E.ON and EDF. Our direct field force capability of 2,500 is additionally supported by 1,500 field staff from our M Group Services sister company, Morrison Data Services.

We have significant experience in delivering domestic and commercial meter installations, exchanges and associated reads. As part of M Group Services, we fit, exchange, repair and read over 60 million meters per annum.

Given our long history of working collaboratively with many clients in delivering SMART metering work programmes, we have developed significant experience in delivering both domestic and commercial meter installations and exchanges. We have specific qualitative knowledge of how the installation of a meter and accurate transfer of data can directly impact customer bills. MWS have developed an AI platform to ensure the accuracy of data when exchanging or installing a meter.

Client & Contract	Details
Yorkshire Water – Water Services Partnership	Duration: April 2015 – April 2028 Devices installed: c.85,000 meters int/ext Size: c.£12m pa Location(s): Yorkshire Technology variation / stack: AMR / AMI Responsibilities: Appointment booking, install, maintenance and commission. Partnership / consortium: N/A
Welsh Water: Water Network Alliance	Duration: Nov 2018 – Nov 2025 Devices installed: c.25000 per annum - 16,000 replacements and 9000 with new connections Size: c.£4m pa Location(s): Wales Technology variation / stack: AMR Responsibilities: 6,888 Dig and 35,000 surveys. Appointment booking, install, maintenance and commission. Partnership / consortium: N/A
Thames Water: SMART Metering	Duration: April 2010 – April 2025 Devices installed: Optant Metering Programme c20,000p/a, R&R Replacement 30,000-60,000 p/a, Progressive Metering Programme 50,000-100,000 p/a. We have fitted in excess of 1 million meters. Size: c.£50m pa Location(s): London Technology variation / stack: AMI Responsibilities: Work is split into three streams: OMP (Optant Metering Programme): Customer requested installations; R&R Replacement programme: Rolling replacements and upgrades of existing meters at the end of their serviceable lifespan (60,000 per annum) and PMP (Progressive Metering Programme): A compulsory metering programme in which the customer has the meter installed to help reduce water stress. Partnership / consortium: Collaboration with technical partner Arquiva.
United Utilities: Enhanced Metering	Duration: April 2021 – April 2025 Devices installed: c.15,000 per annum Size: c.£8million Location(s): North West England Technology variation / stack: Responsibilities: MWS provides non-metered customers with 'dummy' bills following external meter installations, enabling them to switch to a meter with no increase in cost for 2 years. Customer focus and innovation are key to our success on this framework. Partnership / consortium: N/A

Delivery

Please walk us through your **proposed Service Delivery Model(s)** and its (their) **scope of work**. For each delivery model, please elaborate what would be your responsibilities vs YW's responsibilities and who would own and operate individual activities including:

- Programme / solution design
- Meter Supply
- Meter Installation
- Meter Maintenance
- Network Design, Installation and Maintenance
- Data Acquisition & System Integration
- Communications Responsibilities.
- Data Analytics
- Customer Service
- Asset Procurement

Programme / solution design

MWS has extensive experience in the end-to-end solution design of SMART meter programmes, with the ability to programme manage all requisite activities.

Our proposed solution encompass meter supply, install and maintenance, communications technology, network installation, data analytics, customer journey, and after care support with call centre management. We are able to bring together a number of entities under one programme, including Vodafone and BT along with meter manufacturers such as Sensus, Diehl, Arad and Itron where we are the meter installer of choice. We also work closely with Suez and Aqualogic to provide extended services such as SMART water apps and water home visits.

As part of M Group Services, we are able to utilise the capabilities of our wider group companies including Magdalene, an established company in the telecoms sector with experience in the installation of telecoms infrastructure, and Morrison Data Services, who provide meter reading services across managed water and energy clients.

MWS itself is able to offer robust installation services together with meter maintenance and support. Our plumbers and surveyors can not only conduct SMART home visits but can also resolve customer supply issues with boilers or loss of water, thereby ensuring that the best possible customer experience at every level.

Meter Supply

MWS maintain positive relations and are experienced at working with the major meter manufacturers in the UK such as Sensus, Itron, Diehl and Arad but are also able to explore other metering solutions across Europe if necessary. As the meter installer for the Wize alliance, we have experience in both the provision of NBIOT meter solutions and the installation of fixed network architecture.

As part of our proposed service delivery model, we would build a meter stock management system using our CRM tool Salesforce, which tracks every meter from supply through to install with the customer. Our meter install lifecycle includes provision for both the replacement and disposal of the

meters as well as extended investigation on faults which may surface on batches of meters. We are also open to consider the provision of meters as a service offer under the 'data as a service' model, pending further discussion with YWS.

Meter Installation

MWS has significant experience performing meter installations of any size from SMART Meters to Trunk Mains and Zonal Meters. Our proposed solution encompasses the provision of an end-to-end customer journey from planning and scheduling through to customer comms. Our call centre will manage all customer queries or home visits and include a dedicated customer escalations team to manage at-risk or vulnerable customers. We maintain and comply with an 'always in supply' policy in order to provide minimal possible customer down time.

We are able to provide extended services as part of our solution, from customer side leak repairs to lead pipe replacement and Epipe lining. We can also carry out new comms pipe installs if required as part of a meter exchange programme. Our services also include Optant, reactive and replacement workstreams, with our management team experienced in all customer lifecycles. We can also carry out SMART home visits, advising high water consumers of water efficiency savings mechanisms to reduce bill shock.

In order to manage installations efficiently, we target properties on a street-by-street basis to minimise repeat visits. Our survey teams are experienced in recognising un-meterables, allowing for fast installations programmes such as screw ins and digs on 'one on one' supplies to be carried out.

Meter Maintenance

As one of the largest meter installers in the UK, we have a good understanding of meter maintenance and are able to successfully analyse root causes of failure. As part of our solution, we will ensure safe disposal of meters for customers, as well as carrying out forensic examination on failed meter batches from suppliers. If required, we can also provide warranty services for customers.

Our experience also extends to data communications and non-reads where we provide further visits to repair meters or replace communications devices.

Network Design, Installation and Maintenance

Through collaboration with our partners, MWS is able to provide optimal design for fixed network or mobile communications solutions. We maintain strong relationships with a number of telecoms providers, including Vodafone and BT, together with fixed network providers such as Suez and Arqiva. Additionally, our sister Company Magdalene is an industry expert in providing and installing network infrastructure either with telecoms or fixed network providers.

As part of our service delivery model, we will provide support on down time on aerials as well as providing installation support on repeaters to address communication issues in rural areas or city black spots. We can also modify customer sites if signals are poor to provide and relocate meters if required to ensure better connectivity.

Data Acquisition & System Integration

Our software engineers and business analysts can work with YWS to provide any head end system, from meter data management systems through to digital twins. Our Salesforce job management system not only tracks stock from supply to install but also covers the disposal of meters, with objects created for the meters which have been deployed for each customer. Our reports also include communications reliability of every meter along with intermittent meter reads.

Our systems engineers are experienced in linking systems across wide area networks through APIs or OPC. Our works mobile package can push or pull jobs from operatives' SMART devices and are enhanced with AI capability such as Blicker to automatically read meters from photographs, minimising human error. All customer data is held on secure IT platforms and is maintained in line with data protection legislation.

Communications Responsibilities

All our contracts have a dedicated Contract Director who is ultimately responsible for the delivery of the contract and will appoint dedicated operational managers for each work stream. We are experienced in the mobilisation of large-scale contracts, providing clear roles and responsibilities for all staff and communicating them effectively. All our project managers, operational managers and senior staff have been formally trained in project or programme management on established industry training programmes.

At the start of project award, we will provide a mobilisation programme showing our organisational structure and responsibilities along with stakeholder management activities and responsibilities. We have a clear escalation path for issues together with a deep understanding of contract management and formal notification procedures on the contract, such as early warning to notify customer of any risks or issues on the programme.

Our supply chain partners are well versed with our operating procedures through our long working relationships and multiple contracts and have single points of contact for communications.

Data Analytics

We have extensive hydraulic modelling and machine learning capabilities and as part of our proposed service delivery model we can provide automated CSL detection, linked to job management systems which can generate letters or text message alerts to customers. We can also provide Graphical User Interfaces on GIS backgrounds for any customers, with point displays on individual customer data.

We can acquire all data to provide detailed demand analysis for the water balance or analyse water consumption benefits before and after the meter install. We are able to extrapolate meter reads from SMART Meters through to non-SMART metering households, providing dynamic water balance for seasonal or different customer demographics. We can also create bespoke customer dash boards to analyse a variety of data sets in real time.

Customer Service

As one of the largest meter installers for the UK, we understand the end-to-end customer journey and have a policy of 'Every Customer Counts'. Our call centre professionals are experienced in managing all elements of the customer journey, including planning, scheduling and data management. Our field staff are also trained in managing customer communications, with a clear customer escalation route to senior managers if required.

We operate the WOW awards scheme within our business and have consistently scored above the national average, often scoring maximum scores month on month leading to several customer awards.

Asset Procurement

MWS has significant experience managing large procurement programmes for meter supplies with our clients, from 1 million SMART Meters for Thames Water through to the supply of Bulk, District and Zonal meters through our procurement teams. In addition, our plant and fleet division maintains one of the UKs largest transport fleet services, demonstrating our capacity to operate large asset procurement and financing projects.

As part of our proposed service delivery model, we can establish stock management systems which can be integrated with customer platforms. We are also able to offer financing options and can manage procurement and maintenance for customers along with disposal. We have secure and established finance systems and are able to manage cash flow on projects for customers. We have a large supply chain with vendor assessment through prequals, supplier financial checks and exclusive agreements.

We are also experienced in the management of field service supply equipment, including tools, PPE, vans with customer branding, and IT equipment and services.

Do you have **established partnerships** with other organisations (e.g. on the activities in the proposed service delivery model that you do not cover)? How could these be leveraged if delivering YWS smart metering programme? Would you be intending to enter into **a consortium** if delivering for us? If so, please detail the proposed structure including who would lead and what the accountabilities would be for each organisation forming the consortium.

MWS and the wider M Group Services have significant and extensive capability / experience in delivering the 'end to end' service and scope for SMART metering. These activities include network installation and management, the physical meter installation and associated customer journey, the data analysis and management and issue resolution. Within the Group, we have the ability to undertake several activities by utilising our Morrison Energy Division, Morrison Data Services Division (more specifically Callisto) and Morrison Telecom Division (which includes Magdalene, Waldon, Avonline and Morrison Telecom Services).

Within M Group Services, we can offer the full end-to-end service in collaboration with various external third parties in order to ensure YWS complete scope of delivery with the assurance of competent field teams and efficient scheduling and customer journey management. This end-to-end solution could be developed with third parties and key elements of responsibility agreed in relation to aspects such as customer journey management, type and funding of the meter to be installed, management of data, installation and long-term maintenance. The 3rd party funding of the meters and network would mean that MWS could focus on the meter installation, customer journey and issue resolution management in order to achieve best results. This could involve partnerships with other parties such as Macquarie Group Limited in order to provide YWS with the most efficient solution.

Depending on the scope agreed with YWS, MWS could also offer support on the transition of the analogue or AMR meters to AMI meters, where the reading activities could be included in the whole

MWS proposal, offering the most cost-effective solution to YWS by integrating this service with other utilities workstreams as you migrate to a full SMART solution.

This holistic service will require open dialog with YWS in order to achieve the required outcomes whilst ensuring the risks are allocated to the appropriate partner within this arrangement who have the appropriate experience and technical capability.

MWS will be pleased to consider partnering with technology providers such as Suez, Arqiva and BT. We have worked in the water and the telecom sector through our various group companies with these established technology providers. Depending on the final technical solution agreed by YWS we would be pleased to consider supporting partnering arrangements accordingly with any of these or others.

Do you have any experience in delivering metering solutions **for hard to reach communities / areas** (e.g. those with no network coverage, Flyingdales, etc.). If so, please elaborate. If not, please explain how you would manage the metering in these areas in your delivery solution.

As part of our Thames Water metering contract, we have delivered metering solutions in areas where there is limited or no fixed network coverage. Generally, the meters in these areas would be read using mobile drive-by technology or repeater masts if these have been installed. As network infrastructure coverage and technology improves (e.g. NBIOT and the like) we believe these rare instances will diminish further. If you have know areas with limited coverage it would be prudent to "backend" these installs toward the end of the programme as technologies may have advanced to alleviate the issue.

What is your proposed/preferred **technical solution?** Why do you foresee this technical solution being a good option for YW to consider? Are you flexible to consider alternative technical solutions?

At MWS, we consider ourselves a 'comms agnostic' organisation, being both open to and capable of working with any comms provider in order to meet the requirements of YWS' programme. As the meter installer for the Wize alliance, we have experience in both the provision of NBIOT meter solutions and the installation of fixed network architecture, as well as having separate experience in the provision of open protocol network solutions.

With a number of potential technical solutions on the market, we would seek to work with YWS to identify the solution that best meets your needs and would be more than happy to consider any solutions you prefer.

Yorkshire Water is looking to install approximately one million smart meters across its licence area by 2032. Would you be able to commit on supporting the delivery of the whole programme? If not, what is the **maximum project size** that you could commit to (e.g. in number of meters deployed)? Please justify why this is the case.

Yes, we have installed significant volumes on our previous contracts, including over 1 million meters as part of the Thames Water SMART Metering contract, and have historically installed c.85,000

meters for YWS as part of the Water Services Partnership. We would be confident in installing volumes in line with YWS' roll out plan, however we would need to build and develop a significantly larger supply chain than we currently have in the region, so would want to work together with YWS and agree a deployment profile that factors in sufficient time to do this. We would also need to align this forward profile with meter manufacturers and kit suppliers. Given the scale, we would look to work with multiple partners to de-risk delivery.

What is your **manufacturing volume capacity** and what are the critical path activities to being able to achieve this capacity? What are the **current blockers** which impact your ability to achieve this?

MWS are not a manufacturer of meters, to ensure delivery of the programme multiple meter vendors would support the overall delivery and mitigate some commercial and delivery risks

What is the **delivery timeframe or pace** that you could commit to? If indicative, can be based on past engagements e.g. how many meters were you installing per day/week/month/year?

We currently install around 14,600 household meters and 1,000 non-household meters per month for Thames Water. This totals around 142,000 household meters and 11,000 non-household meters per year.

This volume of work is being delivered by a team of around 450 staff, including plumbers, dig teams, surveyors, and leakage techs. Currently, we have delivered 8 million hours of work without a single RIDDOR incident.

What are the **key risks that you foresee in delivering our Smart Metering programme** (based on the volume and delivery timeline you have just mentioned)?

The first and most pressing risk which we foresee is a potential drop in delivery consistency following transfer of resources at the commencement of the contract. As such, it is imperative that the TUPE of existing resource working on YWS' SMART Metering Programme is completed both quickly and efficiently. Our contract to take over the Thames Water SMART Metering framework involved the TUPE of around 100 staff from Vennsys (Mace, Veolia, H2O JV), and our successful engagement in this process was invaluable in ensuring that we 'hit the ground running' on that programme.

Further to the above, another potential risk is the possibility of a lack of available resources to meet YWS' delivery programme. Upon our appointment to this contract, we would ensure that we engaged sufficient resources to fulfil the programme requirements, bringing new staff on board where necessary in order to avoid any delays in the programme.

In addition, we also foresee that a lack of availability of SMART meter stock may be an issue. Given volume of meters to install, it may be advisable to use more than one meter supplier to eliminate this as a risk. As an independent, we can provide multivendor support and supply management, as

well as providing forecast reporting on the number of meters required to vendors up to 6 months in advance to allow smooth delivery and avoid disruptions to the meter installation programme.

Another possible risk we foresee is issues around the integration of our systems with yours. In order to alleviate this risk, we have developed our systems to be easily interfaced with any system, including all mainstream systems (MS, Oracle, SAP) as well as bespoke Client systems. Should we be selected to be part of this programme, we will undertake design as part of the mobilisation period to ensure that our systems' compatibility and standards are built in as part of the integration.

The final key risk we foresee on this programme is a potential lack of customer awareness of planned work. Early customer awareness is critical to the successful delivery of any SMART Metering programme. Upon award, MWS will ensure that customer journey scripts are in place immediately, allowing all customers to be kept well-informed of what we're doing long before we begin. As part of our Every Customer Counts philosophy, we always follow the below principles regarding customer communication:

- Inform customers of our works in advance.
- Listen to a customer's problems and honestly answer any query they have.
- Clearly explain any paperwork a customer may have.
- Communicate with customers to confirm and appointments, make them aware that we are en-route and confirm the time of arrival via the customer's preferred contact method.
- Proactively communicate with affected customers and key stakeholders during service delivery, explaining what we are doing before, during and on completion of the works.
- Keep checking that the customer is happy with everything and signpost them to someone else if they need help or information we are unable to provide.
- Undertake multichannel communications, such as early written notices, personal visits, telephone calls, social media posts, letters and proactive outbound text messaging, using the communication that is appropriate for the individual customer's needs.

What is the **risk apportionment** between parties and activities envisioned for this service and how do you ensure **your solution is future-proofed**?

We feel unable to answer this question as the solution is not clear at this time. Given the sector will be installing meters at higher volumes than previously experienced, ensuring key risks are back-to-back would develop a better solution for all parties involved.

How can YW **secure better value for money** (e.g., YW retain certain risks etc.)?

The primary risks for us as a meter installer relate to access to the property, as well as fluctuation of deployment volumes. One option to mitigate this may be for YWS to take or share risk around non-access, e.g. via abortive charges. Another option may be to split the charging structure out, i.e. set a fixed overhead allowance, and then rates per job be priced separately. This would de-risk of overhead under-recovery. Further to this a target cost mechanism could be considered but this needs to be weighed against the cost of administration and potential complexity of such a mechanism. Finally, contractual T&Cs will naturally drive cost of deployment, and best value can be achieved via an equitable apportionment or risk (e.g. changes in law, inflation, step in rights, etc.). KPI incentive mechanisms that drive both risk and reward, linked to realistic targets that are regularly re-calibrated would be attractive.

efficiency of deployment, e.g. YWS marketing to encourage customer take up and access rates for internal fits, easy to use customer journey with e.g. online appointment booking. Also clear specifications around what is a viable job, what would be aborted on value for money basis? Coherent contractual set-up to ensure each part of the value chain is accountable.

What is the proposed **agreement length** to which you can commit?

For the overarching framework agreement, we would be flexible but ideally would want a minimum term of 4 years (i.e. sufficient to recover bid costs and mobilisation costs and return on investment), with a break at some point beyond this to provide flexibility for both sides. One option may be to align a break point with the AMP period. The time period over which risks are taken (e.g. change in law, inflation) would also impact this. Another approach would be to have annual contracts under the framework, an approach we have used with clients in the past.

For the individual meter deployments, we would assume these would then be in line with the meter life, e.g. 10-15 years.

What options can you offer regarding the **phasing of costs over time**? And what are the risks involved with each option?

In terms of cost phasing the main driver would be the cost of assets which we would look to finance via our partners via a MAP provision type agreement. We would be unlikely to finance such costs via corporate finance (on balance sheet). The main risk with this option would be in terms of securing funding in line with a fixed rate of finance without certainty of deployment volumes however this can be managed via different arrangements with our partners.

What are the **typical SLAs** you are used to committing to (for each activity)?

Although we are happy to maintain a flexible approach to suit YWS' needs, the SLAs we typically adhere to for install are as follows:

Optant – 50 days
R&R – 30 Days
PMP – No SLA

What are the proposed **end-of-agreement principles** (e.g., what happens to the infrastructure once the agreement expires / the meters reach end of life)?

This would depend on YWS' preference. We would be happy to remove meters as part of a reverse logistics process and dispose of them in line with the relevant regulations. We would then either

include this in any pricing agreement via a net charge/credit (dependent on value achieved). Alternatively, we would be happy to return them to YWS.

It would be wise to build in flexibility if using a MAP arrangement, so if assets last longer than anticipated they can stay on the wall at low cost - i.e. service only once capital costs recovered by the MAP

What options can you offer regarding the **phasing of costs over time**? And what are the risks involved with each option?

We would be unlikely to finance such costs via corporate finance (on balance sheet)

Would you be able to **provide a cross-water sector offering** (i.e., if YW joined up with another water company for a common offering)? If so, what would be the implications on timescale, volume constraints, system integration requirements etc.?

MWS would welcome cross water sector service opportunities and have discussed this philosophy with several water companies. Joint investment in a head end system or job management platform allows suppliers to provide a one-time system build which lowers the costs of production and timescales for deployment. Once the core objects have been created opportunities still exist to provide a bespoke offer whilst keeping the core platform as close to a vanilla product as possible. It is our view that SMART metering for the water sector would benefit from industry standardisation of protocols similar to WITS and DNP3, as with the telemetry and SCADA sector. Standardisation of information provides consistency of data provision and formatting whilst also developing into a standard for manufactures to work to.

Timescales for developing products can be minimised if YWS is also willing to adopt existing platforms. As an example, MWS have developed job management platforms for SMART Metering using Salesforce, which is linked to our work mobile applications, capturing data from operatives in the field. Now adopted by several water companies, Salesforce allows for the migration or duplication of objects, thereby reducing design and programming.

Several platforms exist for data management of SMART metering reads, with some platforms purchased from other sectors, such as energy, and reconfigured for use in the water sector. These platforms are not ideal as they have been designed to address the needs of other markets and not the water sector. Water products such as hydraulic modelling platforms create a reduction in deployment, as these platforms can handle data from devices on a water network whilst also having the advance data analytics capability to process water balances or individual customer profiles. Collaboration between water companies can guide the development of products to meet regulatory requirements, providing the industry with one standard.

Over the last AMP a number of ideas have been suggested to meter manufacturers on what is important to develop within the next generation of SMART meters. In certain instances, there is divergence across the water sector on what features are required, thereby making it difficult for manufacturers to develop one product which can meet the core needs and objectives for SMART meters outlined by regulation. If cross sector collaboration can be extended into the development of the next generation of SMART meters, then a greater incentive would be provided to manufactures to invest in newer products and reduce the timeline to market delivery.

At present there are a wide variety of telecommunications options available to the water sector, from fixed network through to the provision of NBIOT. Infrastructure investment is significant and costly, especially when meeting coverage in rural areas. Roll out of infrastructure is one of the critical path items for a SMART meter roll out. It is our belief that investment into national infrastructure is required to provide sustainable infrastructure and avoid closed networks, which require significant investment to update once deployed – a cost which is not passed on by large mobile network providers. However, the best frequencies to operate below ground assets needs to be reserved by providers, which is where industry collaboration can influence this provision.

Investing in a work force is the greatest benefit from continued cooperation from the industry. As an example, MWS invests in a plumbing academy allowing for apprentices to enter the industry and learn the trade, progressing through to academic qualification which will benefit their own future. Through promoting this type of additional benefit, we allow the supply chain to source a large workforce, helping to meet the volume of work existing within the sector.

In your experience what is a realistic **procurement timescale** for such a project?

We believe 12 – 18 months would be a realistic procurement timescale. , however if the procurement was split and staged in an appropriate order this could reduce as you are running the composite elements of the procurement in tandem.

What activities can YW be undertaking now to ensure **a successful procurement**?

In order to ensure a smooth procurement process, YWS will need to provide the following information as a minimum:
A clear scope

- Clarity on volumes
- Clarity on customer journey
- Clarity on who will deliver each part of the end-to-end process.
- Penalty/reward in the contract T&Cs
- Clarity on any technology preferences

Further to the above, we have identified the following specific activities which YWS undertake could undertake to help ensure a successful procurement:

- Develop an early understanding of target deployment areas, sequencing etc – This will help responders to accurately price their submissions based on nature of areas selected.
- Analyse trial and early work outcomes to understand lessons learned – This may allow YWS to discover something which would help responders to develop bids that are better suited to YWS' needs.
- Develop an early understanding of your organisational readiness status/plans and intended operating model – This will help tender responders to build models which align with YWS.
- Decide upon what you want the desired customer journey to be, including what propositions are being developed to engage customers and why customers will want a YWS SMART meter – This will help tender responders to develop customer journeys which align with YWS.
- Develop an understanding of the 'right' amount of data you wish to get back from meters, as well as the appropriate frequency and required service level – This will potentially allow for significant cost savings, for example through accepting 100% data availability when 95% would give most of the benefit at a lower cost.

In addition, YWS may also want to consider that any increase in the amount of accurate customer contact information will support better access upon programme commencement, for example the collation of up-to-date mobile numbers to allow texting etc will support better access rates. Furthermore, there are several other points which YWS may wish to consider as possible barriers to successful procurement:

- A high level of risk may put people off tendering
- Lack of information regarding access rates and how many customers YWS will be able to meter.
- Lack of data regarding meter location affecting access rates

If not covered in your answers above, **can you please outline what data sets YW would need to provide** to help you develop and price the bid in question?

In order for us to develop and price a bid for this programme, YWS will need to provide the following:

- Volumes including explicit detail on job types – Resourcing and costs vary significantly for screw-in, dig and internal installation.
- Clarity on target geography over time – Different areas will present different challenges for deployment and comms provision.
- A clear spec around what work is permissible or not, e.g. additional pipework or digging
- A view as to the number of chambers requiring replacement (it is likely a small percentage will be found to be broken when we visit) – this will help to ensure accurate costing.

In addition to the above, we would like to outline that tendering for a longer period will assist tender responders with resourcing the roll-out. In MWS' case, depending on volumes we may need to create additional installer capacity against what the market can provide.

Additional services

Are there any **additional customer-facing services** (e.g. when installing the meters) that could be delivered by yourself or through your partners? What is the added value that these services would provide and how does it enhance your offer?

All MWS employees are trained in customer-focused competencies such as communication skills, empathy, tolerance, and the ability to respond to customers appropriately. In addition, all employees working on YWS contracts will have been fully inducted into your processes, systems and customer standards as a baseline, ensuring that they are able to provide exemplary service to every customer from day one. As part of this training our employees are taught to identify vulnerable customers. This allows them to prioritise services as necessary and to make sure that all individual customer needs are met.

In addition to the above and further to discussion with YWS, we are able to work with our partner Aqualogic to provide water efficiency and home audits to customers, as well as to potentially install water saving devices. Visiting people's homes and engaging with them in their own surroundings via a home water audit enables the homeowner to reduce their usage and general water demand while offering a credible assessment. Water saving tips and guidance will be offered throughout the visit of the customer's home and on completion a report is auto generated by our system and emailed directly to the customer. The engineer will provide a calculated outcome of how much water the home uses per month/year and how much the customer could use with efficiency measures as well as the cost of that on a metered tariff.

Do you or your partners offer any **additional data/digital services** leveraging meter data to deliver value for Yorkshire Water and/or end-users (e.g. using metering data to inform the shaping of a social tariff)?

Real time customer data is one of the cornerstones of our digital transformation capability and head end systems, powering our Digital Twin (real time hydraulic model) which can handle millions

of data points per minute and rivalling traditional SCADA systems. VariSim Delta has been designed to deliver a real time water balance to assess leakage and customer behaviour on the water network. Currently provided to Yorkshire Water, VariSim Delta provides the unique capability of converting customer consumption to modelled pressures for every pipe on a water network. Anonymised customer data is used to predict ideal water pressures and then compared with measured pressures to identify anomalies. The hydraulic losses are then investigated, and often have revealed leaks, pipe blockages or unaccounted for water.

Customer reads from SMART meters have provided benefits in analysing dynamic customer demand, moving away from estimated consumption through to individual customer profiles. Providing the ability to analyse individual consumptions allows for advanced warning of customer side leaks which can then trigger communication with customers on emerging issues with their supply pipe. The data provided can also initiate the need for water efficiency home visits where the number of users within a household can be compared with the area average. High users can then be targeted to reduce consumption (where the greatest savings are made) and users provided with water efficiency devices as part of a water efficiency campaign. This can be effective when targeting customers in water stressed areas or during a drought.

To transition customers from an estimated consumption to a metered tariff can be challenging, especially during a cost-of-living crisis. On our SMART metering programmes, we have seen a dramatic change in customer consumption when metered, with customers becoming more proactive when engaged on their daily allowances. Allowing customers, the option of a transitional period can help shape tariffs to avoid bill shock, a practice adopted in the energy industry where customers are also provided with energy meters allowing them to monitor the cost of energy. MWS are working with partners to provide SMART apps which allow for similar visibility of water consumed. SMART meter data can also be utilised when looking at pressure management in a district metered area (DMA) where high meter penetration can help inform operators if certain water pressures can reduce consumption during peak hours. A live water balance can also help calculate leakage by viewing minimum net night flow or total volume, allowing for potential leakage reduction savings by managing data allowances in real time.

Metering all customers has the potential to reduce the carbon footprint of operation through identifying accurate leakage levels. As a result, it is now becoming a quickly adapted process within the water industry. With water being a vital resource for our future, collective responsibility to save water is a message we are spreading across all users. The ESG responsibility can be articulated to customers through data provided on SMART apps and devices, an idea which, though ambitious in its concept, is rapidly turning into reality.

Do you or your partners **provide R&D funding** to prove capability / solutions / meters?

Yes.

Financing

Are you **aware of any arrangements inside or outside of the UK** where water smart meters are owned by a third party rather than the water company? Please elaborate.

We are not aware of such arrangements in the UK water industry, though several of our clients have explored this. Such arrangements are commonplace with our energy clients, i.e. MAP (meter asset provider) provision.

Has your company been involved in **non-traditional (asset provision, etc.) models for smart metering rollouts**? Please elaborate on how this was operated and the key learnings from this experience.

Yes, through our energy division we have been involved in SMART metering rollout, including using MAP provision.

Would you be interested in **funding Yorkshire Water's smart meter roll-out** (owning the meters), either in part or in whole, yourself or through partners. Please elaborate.

Yes, but via partners. We have engaged with partners previously who would have interest in supporting such an arrangement.

What are the key factors that would drive your decision to fund the project, and **what would you require from YW**?

The main drivers would be the level of commitment to roll out volumes and the level of appetite YWS would have to tolerate variable rates of finance. Whilst we could lock in financing rates via our partners, such a lock in could not be achieved until we have firm commitments with regards to deployment times/dates.

If you have an interest in **funding YW's smart meter rollout**, would you consider **Direct Procurement for Customers**? Please explain why.

Potentially, it would depend on the terms and conditions, and we would need to seek counsel from our partners and be clear on the scope; but in terms of the principle, this is certainly possible.

Do you have any experience in using the **DPC model**? If yes, please provide details about the project where possible.

No, we have yet to participate in a DPC based procurement.

How do you envision the integration of your solution with **YW's existing meter stock?** Please elaborate about ownership, maintenance, interoperability, data consistency etc.

Integrating 1,000,000 meters into an existing meter stock and reporting system can be achieved in multiple ways. Ideally for YWS, all the meters in the region (new and existing) should report into a single software system, this will eliminate duplication of process and system requirements, removing ineffective time from day-to-day operations and will support data consistency. For this to be achieved compatibility of the new an old meter reading software needs have the ability to exchange information seamlessly. Ownership of this process and system could be by MWS or YWS.

Whilst YWS transition to SMART meters over AMP8, it is imperative that the governance and rigor is maintained around reading both new and old meters to follow Ofwat's recommendation that it is read by your water company at least once every two years" and the benefits form the SMART metering programme of PCC and Leakage can be realised as efficiently as possible.

Data points for the Notional Offer

For each of the proposed offer(s) please provide as much detail as possible on the following, including both an estimated value and reasoning behind this. If possible, can you please separate costs out between enhancement and base, and ensure that any information provided can support the population of data tables to feed into (or be separated from) Ofwat's cost assessment if appropriate.

- Your CAPEX Costs – (e.g. Costs of meters, data cabling / connections)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Retained YW CAPEX Costs – (e.g. Costs of new IT system, partner procurement costs)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Your OPEX Costs – (e.g. Installation costs, smart meter reading resource, data hosting, SDP, maintenance)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- YW retained OPEX Costs – (e.g. IT data resource, analytics capabilities)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Ownership Attribution – (Proposed % ownership split between partner and YW)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Cost of Capital – (WACC)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- What margin would be required/expected over the assets' full life cycle – (IRR)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Delivery timeframe – (including replacement lifecycle, decommissioning, any issues with supply chain)

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

- Notional TOTEX offering.
    - Integration/enabling costs for agreement & interfaces (any upfront CAPEX to allow for this)
    - Borrowing costs
    - Capability to deliver at speed (faster than YW programme?)
    - Unit rate efficiencies at scale
    - Sensitivity analysis of components most impacting overall cost offering

M Group Services would not look to finance the meters, we would look to partner with any potential MAP and/or finance house.

Additional Monitoring Programmes

YW is also looking into using smart meters to manage their river quality (we will be installing river water quality monitoring devices across our reservoirs which will be greater than £100m TOTEX to deliver). **Do you see any cross-over in your customer-side Smart Metering solution and a river water quality metering asset?** If there is a clear cross-over between the solutions, would your organisation be capable and interested in delivering both?

MWS would be interested in deployment of both asset types, and would ensure any efficiencies gained in back office staff, communication/networks and IT systems would be represented in any tendering and/or proposal submission.

YW is also looking into alternative asset provision models to **support the installation of monitoring devices in the Wastewater network**. Does your organisation have any expertise / interest in exploring this further?

No.

Any other business

Are there any other points **that you would like YW to note** with regards to your organisation and the way in which you can support the delivery of the Smart Metering programme?

MWS has a pedigree in working with its clients, supply chain and key partners to deliver outcomes for its customers. Having the group capability is also of benefit, e.g. our Telecoms Division has a wealth of experience on land acquisition to support expanding the communications networks. We are keen to support YWS with its AMP8 submission relating to SMART metering, and would be happy to share further information if required. Our experience of driving performance and customer satisfaction on our Thames Metering contract ensures we have the relevant experience and systems, through our Salesforce products to deliver a class leading end to end install service.