

Statement of Work for

AI Model Development or Refinement for MDS Application

Ver.: 2.0R

27-June-22

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| --- | --- | --- | --- | --- |
|  |  |  | Initials | Sign & Date |
|  |  | Client Partner | Prakash Rajan | PR.,  27-Jun-2022 |
|  |  | Business Unit | Suhas Tamras | ST.,  27-Jun-2022 |

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev. No** | **Approved Date** | **Affected Sections/ Pages** | **Description** |
| 2.0 R | 27-Jun-2022 | All | Draft document |
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# Abbreviations

Following are the abbreviations used in this Statement of Work.

|  |  |
| --- | --- |
| Abbreviations | Description |
| SME | Subject Matter Expert (3M Petri film Plate Reader Advanced product knowledge) |
| SOW | Statement of Work |
| OSE | Onsite Engineer (deployed at 3M offices in St. Paul, MN, USA) |
| UI | User Interface |
| UX | User Experience |
| CR | Change Request |
| TE | Tata Elxsi |
| PC | Personal Computer |
| SDLC | Software Development Life Cycle |
| OSS | Open-Source Software |
| MDS | Molecular Detection System |

# Terms and Conditions

## References

This **Statement of Work** (“SOW”) is entered into as of this day of 01-July-2022 by and between **3M Company acting on behalf of Food Safety Department**, a USA based corporation, organized and existing under the laws of USA, having its principal place of business at 3M Center, 0260-06-B-01, St. Paul, MN 55144-1000 ("3M") and TATA Elxsi Limited, an Indian company organized and existing under the laws of India having its place of business at SEZ Tower IX, A-Wing, Level-2, Magarpatta City, Hadapsar, Pune, 411013 India ("TATA Elxsi") for MDS AI Development project (“Project” and/or “Services”) as elaborated further in this SOW. This SOW is governed by the terms and conditions set forth in the Design Services Agreement (DSA) dated 22-September-2017 (“Agreement”) and its amendment “Amendment 01” effective September 21,2018. Upon expiry of the current DSA, this SoW will be governed by a renewed DSA or a Master Services Agreement (MSA) with 3M

## SOW Tenure

This MDS AI Development project shall be effective as of 01-July-22 (“Effective date”) and for the duration of 24 Weeks unless otherwise extended through an amendment to this SOW (“Amendment”). TATA Elxsi team shall commence work on the overall project upon receipt of written confirmation from 3M. TATA Elxsi reflects its best estimate of the time required to perform the deliverables under this SOW, provided in Section [7.1](#_Project_Schedule) and [7.2](#_Milestones/Deliverables_1).

## Project Fees, Invoicing and Expenses

* The Project is set-up on a ‘Time and Material’ basis as described further in [Section 9](#_Commercials).
* The following expenses are not included in our service fees:
  + Any onsite deputation or support
  + Out-of-pocket expenses pre-approved by 3M and incurred by TATA Elxsi and its personnel in the course of providing the Services. Such expenses may include, but are not limited to, third-party licenses, specific hardware or software, travel, accommodations, meals and local transportation costs incurred when travelling on behalf of 3M. Such expenses will be reimbursed to TATA Elxsi at actual. 3M may make necessary arrangements for TATA Elxsi personnel under their policy, in which case the cost of those expenses shall be borne directly by client.

## 3M Responsibilities and Assumptions

3M shall perform the tasks and responsibilities stated below as a condition to the provision of Services by TATA Elxsi. 3M acknowledges that project duration and cost to 3M under this SOW may be affected if 3M fails to timely and completely perform its tasks and responsibilities.

1. 3M will provide a project sponsor or manager ("3M Project Manager") for all communications with TATA Elxsi, with the authority to act for 3M. The 3M Project Manager will have the following responsibilities:

* Serve as the single authorized point of contact between TATA Elxsi and 3M;
* Identify, schedule and confirm the availability of 3M support staff and management for on-site interviews and meetings; schedule meeting rooms as necessary; and ensure that workspace facilities are available for the TATA Elxsi resources;
* Work with TATA Elxsi to administer the project change process;
* Obtain and promptly provide information, data, decisions and approvals, within one (1) week of TATA Elxsi's request unless both parties agree to an extended response time;

1. 3M will provide TATA Elxsi with complete access to, and ensure the availability of, all 3M personnel, documentation, information, standards, systems and other resources that may be reasonably necessary for TATA Elxsi to perform the Services within 5 business days.
2. 3M will provide appropriate workspace and office equipment required for TATA Elxsi on­ site resources to perform Services, including desks, computers (hardware and software), internet access, telephones, faxes, and other items reasonably requested by TATA Elxsi. This clause is applicable for the short onsite phase (maximum 2 weeks duration at time) required during the course of the project.
3. 3M will work with TATA Elxsi to control and manage scope, schedules, resources, and follow project change control processes as required.
4. 3M will secure any appropriate authorization permits or consents associated with the performance of the Services (under the scope of this SOW).
5. 3M will resolve any problems or issues identified by TATA Elxsi with regard to existing 3M software, systems and hardware provided or made available for use by or on behalf of 3M, including any underlying software or data that may affect the scope of the Services or delay TATA Elxsi's performance of the Services within 3 business days.
6. 3M confirms that it possesses the necessary license rights to allow TATA Elxsi personnel to legally use all software and other materials provided by 3M to TATA Elxsi. 3M will provide TATA Elxsi personnel necessary, sufficient license for the developers to work on the project.
7. Additional hardware or software requirements necessary for the completion of the Services may be identified by 3M. After confirmation of the requirements with 3M, 3M will promptly provide to TATA Elxsi the additional hardware or software or 3M will authorize TATA Elxsi to purchase and bill 3M, including the right for TATA Elxsi to use the software required to complete the Services.

# Introduction

## Project Background

* 3M™ Molecular Detection System offers food safety professionals a solution for the rapid and specific detection of Salmonella species in enriched food and environmental samples. 3M is developing Artificial Intelligence (AI) based algorithms for Salmonella detection.
* TATA Elxsi will also support 3M for AI Model development/enhancement for 3M™ Molecular Detection System.

## Project Objectives and Overview

Objective of project ***(“MDS AI Development”***) is to provide maintenance support working with 3M team to develop and enhance AI model for Salmonella detection for 3M™ MDS product.

# Technical Proposal

## Scope of Work

This SOW considers the portions of the following activities for estimation of schedule and commercials.

**TATA Elxsi’s scope of activities**

* + Analyze already developed AI models and optimize the model
  + Develop new AI model for MDS application based on 3M needs
  + Share AI model development and optimization technique being used in the project with 3M team

**3M scope of activities**

* 1. Provide required data for AI model training and pre-verification
  2. SME for understanding the domain and reviewing the outcome
  3. 3M shall provide responses to TEL queries and feedback/approval of deliverables within agreed upon time intervals
  4. Compliance testing and Regulatory validations will be in scope of 3M
  5. Cost of non-standard tools/software required for the project will be borne by 3M

**Out of scope**

1. Document translation or Code translation activities and cost are not considered in scope of this proposal
2. Tool validations, if needed, for tools identified in technology stack is not considered in scope of this proposal

## Assumptions

| S. No. | Assumptions |
| --- | --- |
| 1. | Currently not considered any licensed software in scope of the project. Any new license will be separately changed. |
| 2. | 3M team will be required to perform testing and generate data in case of unavailability of 3M™ MDS device with TATA Elxsi offshore development center. |
| 3. | All the documents created will be in TE/3M standard format using the templates agreed upon in the previous SOW |

## Tools

TATA Elxsi plans to use below listed tools during this project.

|  |  |
| --- | --- |
| **Tool Name** | **Tool Purpose** |
| DevOps | For version control during development (for source code), Defect Tracking, Requirement Analysis |
| HP Fortify | For Code analysis |
| Python | AI Model development |
| Microsoft Office | Documentation |

## List of Open Source Software

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Library Name** | **License Type** |
| 1 | DocumentFormat.OpenXml.dll | MIT License @ https://github.com/OfficeDev/Open-XML-SDK/blob/master/LICENSE |
| 2 | Xceed.Wpf.Toolkit.dll | MSPL license @ https://licenses.nuget.org/MS-PL |
| 3 | GalaSoft.MvvmLight.Extras.dll | MIT license @ https://github.com/lbugnion/mvvmlight/blob/master/LICENSE |
| 4 | GalaSoft.MvvmLight.Platform.dll | MIT license @ https://github.com/lbugnion/mvvmlight/blob/master/LICENSE |
| 5 | GalaSoft.MvvmLight.dll | MIT license @ https://github.com/lbugnion/mvvmlight/blob/master/LICENSE |
| 6 | log4net.dll | Apache license @ http://logging.apache.org/log4net/license.html |
| 7 | WpfAnimatedGif.dll | Apache license @ https://github.com/XamlAnimatedGif/WpfAnimatedGif/blob/master/LICENS E.txt |
| 8 | Microsoft.Practices.ServiceLocation.dll | Apache license @ https://github.com/microsoftarchive/enterprise-library/blob/master/ LICENSE.txt |
| 9 | System.Windows.Interactivity.dll | MSPL license @ https://www.nuget.org/packages/System.Windows.Interactivity.WPF/ |
| 10 | Microsoft.Office.Interop.excel.dll | MSPL license @ https://www.nuget.org/packages/Microsoft.Office.Interop.Excel/ |
| 11 | LibUsbDotNet.LibUsbDotNet | https://github.com/LibUsbDotNet/LibUsbDotNet/blob/master/LICENSE |
| 12 | Newtonsoft.Json | https://github.com/JamesNK/Newtonsoft.Json/blob/master/LICENSE.md |
| 13 | SQLite.Interop | https://www.sqlite.org/copyright.html |
| 14 | System.Data.SQLite | https://www.sqlite.org/copyright.html |
| 15 | System.Data.SQLite.Linq | https://www.sqlite.org/copyright.html |

## Acceptance criteria & procedure

No delivery will be deemed complete unless such new or replacement version and any other Materials required for testing such Deliverable are actually available to 3M on the 3M System or otherwise.

If, after the third Acceptance Review Period, 3M does not accept the Deliverable, then 3M may, as its sole option, terminate the SOW. Upon notification of 3M’s final non-acceptance, the Seller shall promptly refund to 3M all monies paid for such Deliverable.  Such refund shall be in addition to any other rights available to 3M under this Agreement and by law.

The testing and analysis reports will be jointly discussed and reviewed by TEL and 3M. The acceptance criteria will be defined during the course of the project.

The deliverables shall be delivered periodically as set forth in the Section [7.2.1](#_Project_Schedule). 3M shall have Two (2) weeks from receipt of each deliverable to determine whether it meets the relevant Acceptance Criteria. Acceptance criteria will be defined at project kick-off or during the course of the project and will be mutually agreed on in writing. If no written rejection is given to the Seller by 3M within the said Two (2) weeks or if 3M uses the Deliverable for commercial exploitation, the deliverables shall be deemed to be accepted by 3M.

In case “3M” is not able to review the deliverable fully and provide complete feedback within Two (2) weeks’ time, then it would affect the project schedule. In such a situation, 3M and TATA Elxsi would discuss impact on project schedule and corresponding cost impact (if any) and mutually agree upon required extension.

# Overall Project Execution

## Project execution

This project will be executed from TATA ELXSI’s offshore delivery center in

TATA ELXSI Limited – Unit II,

Wing A and B, Level 4,

Tower 07, Magarpatta City SEZ.

Hadapsar, Taluka Haveli Pune - 411013

## Overall Project Schedule

The efforts as per this SoW are for a period of 6 months starting 01st July 2022 to Dec 31th 2022. The project will be executed in tine and material mode.

## Deliverables for the Overall Project

| **Milestone** | **TE** D**eliverables** | **Timeline** |
| --- | --- | --- |
| M0 | 1. Project Kick-off | Project Start date – T0 |
| M1-M11 | 1. AI model files 2. AI model Python Scripts 3. Documents as required by 3M | T0 + 24 Weeks |

## 3M Deliverables

|  |  |  |
| --- | --- | --- |
| **Identifier** | **Customer deliverables** | **Timeline** |
| C1 | 3M shall provide access to the DevOps and/or other 3M process specific tools/document templates for code versioning and other SDLC related activities. | T0 |
| C2 | 3M shall provide necessary MDS data for AI model training | T0+1 Week |
| C3 | 3M shall send MDS device to TATA Elxsi offshore team if team is expected to run the AI model and test | T0+3 Week |

## Project Review

* Joint review of deliverables during project execution
* Regular project management review meeting during project execution. The frequency of the project review meeting shall be decided at the time of project kick-off.

# Project Management

## Reporting and Communication

The following channels of communication are used

* Status reporting
  + Weekly project status update to 3M from TATA Elxsi Project Manager
  + Need based reporting of critical and urgent information from either side any day
* Review meetings
  + Weekly conference calls
    - Frequency of conference calls can be increased during critical project stages
  + Senior management review as needed to review overall project progress
* TATA Elxsi’s Project Manager to facilitate communication and ensure faster closure of open technical issues and dependencies.

## Escalation Procedures

The escalation hierarchy is captured in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Escalations Pertaining to Technical Aspects of**  **Project** | | | |
| Level 1 | Business Unit Head | Suhas Tamras | suhas@tataelxsi.co.in  +91 99204 78736 |
| **Escalations Pertaining to Financial/Commercial Aspects of Project** | | | |
| Level 1 | Account Manager | Prakash Rajan | prakash.r@tataelxsi.com  +1 8482192288 |

## Change Management Process

A change request shall be initiated whenever substantive changes occur and the impact of schedule/cost will be considered and negotiated.

Some of the reasons due to which change requests could occur are

* Change in scope of work due to requirement change
* Delays in dependencies from 3M

# Commercials

## Price

This project will be on a ‘Time & Material’ basis. Tata Elxsi will invoice 3M for the total monthly work days of the dedicated team. The budgetary cost per month and the invoicing schedule is presented in section 9.3 below. The shadow engineers are not billable except if assigned to cover absences of the core team or when called upon to work during peak loads.

The budgetary cost for 24 Weeks of support is estimated to be at **US $ 39,456 (US Dollars Thirty-Nine Thousand Four Hundred and Fifty-Six and 0/100 only)**. A rate structure is provided in Exhibit A to this SOW along with the number of resources deployed. The resource count could be modified during the term of the project via a fully executed Amendment.

## Assumptions

* 3M will provide all necessary tools & licenses not listed in this SOW for this project. In case TATA Elxsi needs to arrange, cost of the same shall be borne by 3M.  These shall be reviewed between both companies before finalizing.
* Any onsite travel between Tata Elxsi’s locations in India to 3M location in United States will also include an additional charge for return airfare of US $2,500 per person per trip in addition to the onsite rate.

## Invoicing Schedule

Invoicing schedule for **“MDS AI Development”** project.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No** | **Budgetary cost for month** | **Planned Invoice Date** | **Amount (US$)** |
| 1 | July-22 | Fri 29 July '22 | $ 6048 |
| 2 | Aug-22 | Wed 31 Aug '22 | $ 5760 |
| 3 | Sept-22 | Fri 30 Sept '22 | $ 6624 |
| 4 | Oct-22 | Mon 31 Oct '22 | $ 6048 |
| 5 | Nov-22 | Wed 30 Nov '22 | $ 6336 |
| 6 | Dec-22 | Fri 30 Dec '22 | $ 6336 |
| **Total (in US Dollars)** | | | **$39,456** |

IN WITNESS WHEREOF, the undersigned, acting through their authorized representatives, have signed this SOW to be effective as of the SOW Effective Date.

**3M Food Safety Department,**

**3M Company TATA Elxsi Ltd.**

By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exhibit A**

Rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. No. | Resource categories | Location | Planned resource | Rate |
| 1. | **AI Engineer** | Offshore: Tata Elxsi | **1 FTE** | **32** |

# FTE: Full Time Equivalents

Pricing terms and conditions:

* Rate Validity: January 01, 2022 to December 31, 2022
* Purchase Orders (PO):

TATA ELXSI Limited – Unit II,

Wing A and B, Level 4,

Tower 07, Magarpatta City SEZ.

Hadapsar, Taluka Haveli Pune - 411013

* Invoicing: Monthly invoices to be submitted for offshore efforts based on the number of working days of the engineers dedicated to the project
* Travel costs for TATA Elxsi’s resources towards short term business travel between TATA Elxsi location in India to 3M location(s) in USA arising from, but not limited to, presentations, face to face discussions, plant/manufacturing site visits et al shall consist of the following:
  + Return airfare per trip per engineer: US $ 2,500
  + Onsite charges per engineer: $600 / day

SoWs for the travel shall be submitted separately.

TATA Elxsi shall initiate such travel of its resources only after discussing and procuring an e-mail approval from 3M. In case of overseas travel, 3M shall organize the “Invite Letters” as may be required for obtaining Visa for entering the country, as the case may be.

* Renewals: The annual rate increment shall *not exceed* a) 8% annually for services provided in India. Any price increments shall be initiated by TATA Elxsi at least thirty (30) days prior to its expiration and *must be agreed by both parties via a duly signed amendment* to this SOW. The revised rates shall be made effective from the 1st day of the next Calendar Year (“CY”).
* Working hours and Overtime:

Normal working hours are assumed between Monday to Friday for a total of Forty-five (45) hours per week at offshore locations of TATA Elxsi. TATA Elxsi’s personnel may be required to work more than the aforementioned hours, when required, as per business needs and *authorized in writing by 3M* after duly notifying TATA Elxsi’s business and delivery management teams.  Any *pre-approved overtime by 3M* shall be charged as per the above rate with

* + - * + *a multiplier of 25% (1.25 times)* on the hourly rate set forth above for TATA Elxsi’s offshore personnel when required to work more than 45 hours in a seven (7) day work week.

For all Offshore deployments, resource(s) shall observe TATA Elxsi’s holiday calendars. TATA Elxsi shall share the same