Technology Description Template

Along with the data submission, each Solver needs to submit a technology description that includes the following information:

1	Transcriptomic assay platform **Title [50 characters or less]** • This title will be used for reporting results of the Challenge and for publicity relation to the winning Solution.

2	Transcriptomic assay platform **Description [1-2 pages]**
	• Briefly describe the conceptual/theoretical basis of the assay approach.
	  ○ For example, is a targeted or non-targeted approach employed?
	  ○ What is the transcript detection/and quantification technology?
	  ○ How are data collected/extracted (e.g., image analysis; fluorescence detection, other)
	  ○ Whether data output are in absolute quantities or relative values compared to reference
	  ○ Emphasize any unique technological approaches/capabilities.
	• Use of one or more figures to help illustrate the conceptual/theoretical basis of the assay approach is recommended.
	• Note the details of your assay platform description that should remain proprietary/confidential.

3	**Quality control features** • Describe quality control features that are incorporated into the assay platform and how they are used to assure data quality. • Include features for assuring data quality both within and across samples
4	**Sample requirements** • Solvers should report the amount of reference RNA used to generate the data submitted for evaluation. • Solvers have the option to submit supplementary data demonstrating assay performance trade-offs if smaller sample amounts were to be used, but this is not required.

	• If the platform can accommodate or is designed for sample types other than purified RNA, that should be noted here as well.
5	**Per sample cost** • Solvers should track and report the per sample cost associated with processing and analysis from the receipt of reference samples to the output of the data submitted for evaluation. • This cost should include the cost of supplies, labor, equipment wear and tear, etc. and should reflect a viable commercial cost per sample charge if these assay were to be conducted as a contract service.
6	**Downstream data analysis requirements (if appropriate)** • Solvers should also document in detail the steps taken to generate the final processed data table from the raw data. • Note any software or internal data that is proprietary (e.g. that the Solver would not include when publishing results from this platform). • If proprietary software is required, the Solver should provide the name of the software and licensing costs (if any). These will be factored into evaluation of the overall cost per sample.
7	**Commercial viability** • Future implementation of an ecological high throughput transcriptomics-based chemical screening program is expected to generate thousands or even tens of thousands of samples per year for transcriptomic analyses. Consequently, the winning Solution will require a commercially viable level of throughput that can meet the potential sample demand, including production of supplies, reagents, and the infrastructure necessary for sample processing and analysis. Solvers must describe a pathway and timeline to a commercially viable level of throughput that can reasonably meet HTP sample demand.