**Check One:** [x] **Project** [ ] **Review** [ ] **Collaboration**

[ ] **Workshop** [ ] **Other**

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| **Descriptive Title** | AI-hybrid powered milling guiding APP |
| **Working Title[[1]](#footnote-1)** | AI guided milling APP |
| **Technical Area[[2]](#footnote-2)** | Size reduction |
| **Date** | June 16th 2025 |
| **Short Description** | Utilize existing/available size reduction models and knowledge combined with hybrid AI methodology to create an APP with the capability of semi-quantitavely direct/guide/improve milling operation, troubleshooting and optimization. Starting from mill type, material characteristics (and process information/parameters) and known current operation performance. Demonstrate how hybrid AI modeling can be used to efficiently build an (mobile) expert system.  |
| **Objectives** | Getting a readily available easy to use tool (APP) that can be used on shop floor. Demonstrate the usefulness of modern AI technologies to capture and enhance expertise in the process industry. |
| **Scope** | From selecting your mill type and your known material properties and other input needed like e.g. mill size, actual throughput, actual operating parameters etc, you will get a good assessment of your desired outputs (e.g. d50, d90, specific energy, throughput), ideal operating conditions or probable cause of issue.To be expanded from a starting test case (one mill type) based on the general APP structure using feedback by IFPRI liasons.Preferably iterative with ability to input known material properties where the APP fills in the blanks and refinements based on input and output observed in the plant (size, throughput …). |

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| **Recommended Contractors (2 or 3)** |
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| **Submitted By:** |
| **Name** | **Organization** |
| Ninna Halberg Jokil | Topsoe |
| Eric Grolman | Envalior |
| Brian Karim | Lincoln Electric |
| Arno Kwade | TU Braunschweig |

1. Title used in meeting agendas and file archives [↑](#footnote-ref-1)
2. One or more from the following list: W = wet systems; D = dry systems; F = particle formation; SR = size reduction; M = modeling; SE = systems engineering [↑](#footnote-ref-2)