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|  | Tarikh kuatkuasa  1 Januari 2022  ICC023 |
| **BORANG PENGESAHAN TECHNOLOGY READINESS LEVEL (TRL)** | |

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| Nama Ketua Penyelidik | z |
| Nama Ahli Penyelidik | 1. |
| 2. |
| 3. |
| 4 |
| 5. |
| Jenis Geran |  |
| Tajuk Penyelidikan |  |
| Tarikh Mula-Tarikh Jangkaan Tamat Geran |  |
| No. Pendaftaran IP | 1. |
| 2. |
| 3. |
| Jenis Output Penyelidikan Yang Telah Dihasilkan  *(prototaip/harta intelek /pengkomersialan)* |  |
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**PENGESAHAN TRL OLEH PENYELIDIK:**

Saya,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_iaitu Ketua Kumpulan untuk projek penyelidikan bertajuk \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mengesahkan bahawa output penyelidikan yang dihasilkan melalui penyelidikan ini telah mencapai fasa \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Oleh itu, bersama-sama ini saya sertakan dokumen-dokumen berkaitan pencapaian TRL ini untuk semakan dan perhatian pihak Pusat Inovasi dan Pengkomersialan (ICC), Universiti Utara Malaysia.

Pengesahan ini adalah berdasarkan kepada jadual yang disertakan oleh ICC di Lampiran 1 untuk dinilai oleh penyelidik. ICC UUM akan mengesahkan pencapaian TRL berdasarkan kepada penilaian yang dilakukan oleh penyelidik.

Tandatangan Ketua Penyelidik:

Cap Rasmi:

Tarikh:

Borang pengesahan TRL/fizhoah/26.5.2022

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| **PHASE** | **INDICATOR** | **PLEASE TICK**  **(one only)** | **LINK TO EVIDENCE** | **EXTRA INFORMATION** |
| **DEVELOPMENT** | * Identification of and observation of basic properties |  |  |  |
| * Outcomes of the theoretical research are specified. |  |  |  |
| * Theorizing of potential practical applications |  |  |  |
| * Analytical research or experiments towards potential application (s). |  |  |  |
| * Initial testing of proposed solutions. |  |  |  |
| * Identification of potential stakeholders |  |  |  |
| **PRE-COMMERCIALISATION** | * Proof of concept that is based upon the integration of applications and components to demonstrate viability. |  |  |  |
| * Concept is validated through pilot testing to substantiate the proposed solution(s). |  |  |  |
| * Identification of relevant stakeholders |  |  |  |
| * Refined integration of components to confirm validity. |  |  |  |
| * Proposed solution (s) are validated by relevant stakeholders |  |  |  |
| * Demonstration of near-end state solutions and testing in a relevant environment in cooperation with relevant stakeholders to gain initial feedback. |  |  |  |
| * Parts of relevant documentation has been drafted |  |  |  |
| **COMMERCIALISATION** | * Refinement of solutions and, if needed, retesting in a relevant environment with relevant stakeholders. |  |  |  |
| * Drafts of relevant documentation are available. |  |  |  |
| * Proposed solutions, as well as a plan for their application/adaptation, are refined through testing, completion and qualification. |  |  |  |
| * Relevant documentation is almost completed. |  |  |  |
| * Relevant documentation is completed and available for stakeholders. A sustainable set of support measures for applying the solutions has been worked out. |  |  |  |

**LAMPIRAN 1**