

## ข้อมูลผลการดำเนินงานด้านเทคโนโลยี

| GRI Standards | Required Data   | Unit              | Data Collection Period |      |      |      |
|---------------|---|-------------------|------------------------|------|------|------|
|               |   |                   | 2020                   | 2021 | 2022 | 2023 |
| -             | Innovation and Technology                             |                   |                        |      |      |      |
|               | Budget for technology research and development        | Million USD       | 12                     | 12.5 | 18.5 | 11.5 |
|               | Projects for technology research and development;     | Number of project | 66                     | 56   | 65   | 58   |
|               | Phase 1 (Preliminary Study)                           | Number of project | 8                      | 5    | 15   | 10   |
|               | Phase 2 (Lab-scale)                                   | Number of project | 29                     | 23   | 26   | 23   |
|               | Phase 3 (Prototype)                                   | Number of project | 14                     | 14   | 16   | 19   |
|               | Phase 4 (Pilot)                                       | Number of project | 12                     | 10   | 5    | 5    |
|               | Phase 5 (Deployment or Commercialization)             | Number of project | 3                      | 4    | 3    | 1    |
|               | Intellectual property registrations                   |                   |                        |      |      |      |
|               | Patent  | Number            | 9                      | 19   | 17   | 17   |
|               | Software copyrights                                   | Number            | 0                      | 0    | 7    | 0    |
|               | Publication of the study results                      |                   |                        |      |      |      |
|               | Research paper publicized in journals and conferences | Number            | 6                      | 8    | 8    | 15   |