



UNIVERSITAS
MUHAMMADIYAH
SIDENRENG RAPPANG



SUSTAINABLE
DEVELOPMENT
GOALS

SDG 9

Industry, Innovation and Infrastructure

Progress Report 2025

Universitas Muhammadiyah Sidenreng Rappang

Reporting period 1 January to 31 December 2025

Prepared 29 October 2026

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



*Membangun Industri,
Inovasi, dan Infrastruktur
yang Tangguh untuk
Masa Depan Berkelanjutan*



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Executive overview

UMS Rappang's documented activities in 2025 show practical contributions to technology development, technical learning and knowledge transfer. This report presents eight cases covering student engineering, agricultural technology demonstrations, community production methods, shared laboratory learning, digital skills, enterprise assistance and research publication. The strongest available evidence concerns activities and early outputs; it does not establish large-scale industrial adoption or university-wide infrastructure performance.

Contribution	Evidence covered
Practical technology development	Feed-chopper prototype and rice-planting technology presentation
Local production and demonstration	Campus agricultural plot and BSF cultivation demonstration
Technical capacity and knowledge exchange	Laboratory collaboration, CAI and IoT training, and DIGITEK publication
Small enterprise support	Digital marketing, product development and production equipment assistance

Purpose and intended use

The report supports institutional SDG reporting through a traceable account of university roles, partners, activities and outputs. Each case contains an authentic image from its source page and a direct evidence link. The evaluation sections explain what further records would establish technology performance, sustained use and wider benefit.

Reporting status

The reporting year identifies the activity period. This document was prepared in 2026 and requires institutional validation and approval before release. Its preparation does not demonstrate that a progress report was published during 2025.

Scope and evidence approach

The report draws on eight accounts published on the official university website during 2025, supported by the original DIGITEK issue record and the United Nations SDG framework. Several university pages reproduce external news reporting. It is a selected evidence review and does not cover every university research project, facility or enterprise relationship.

Rules used in preparing the report

1. Separate the activity date from the news publication date. Where no event date is stated, only the publication date is given.
2. Distinguish development, demonstration, training, adoption and commercialisation. These stages require different evidence and cannot be treated as equivalent.
3. Use participant numbers only with their original activity and unit. Do not combine teachers, authors, prototypes and enterprises into a single beneficiary total.
4. Treat expected savings and possible market opportunities as intentions unless comparative measurements or transaction records are available.
5. Use the actual publication date of this report. Activities in 2026 are excluded from the 2025 record.

Relationship to SDG 9

The mapping below is an interpretation of thematic relevance. It does not measure attainment of national or global UN indicators. The target descriptions have been condensed for this institutional context. [\[10\]](#)

Target direction	Relevant contribution and boundary
9.3 Small enterprise value chains and markets	Digital product and marketing assistance is relevant; credit access and manufacturing value added are not measured.
9.4 Resource efficiency and cleaner production	Agricultural and biological demonstrations offer potential pathways; no verified emissions or resource savings are claimed.
9.5 Research and technological capability	Student prototypes, laboratory learning and publications support capacity building; R&D expenditure and researcher FTEs are unverified.
9.b Domestic technology and innovation	Locally focused development and knowledge transfer support this direction without establishing national industrial change.

The reviewed material does not establish road or transport infrastructure outcomes under target 9.1, or mobile network coverage under target 9.c. Digital training is not a measure of internet coverage.

Developing a feed chopper prototype

Animal Husbandry programme / News published 24 July 2025

Activity and university contribution

Second-semester Animal Husbandry students designed and built a simple feed-chopping prototype for an Industrial Physics final project. Under lecturer Armayani M., students worked on design, power and efficiency calculations, selection of affordable local materials and functional testing. The intended application was chopping rough feed materials such as straw, maize stems and other forage residues. [\[01\]](#)



Figure 1. Source photograph associated with the university account of the feed-chopper prototype project.

Documented output and SDG relevance

The source establishes a reported student-built prototype and practical development work. It supports technological capability and locally relevant innovation under targets 9.5 and 9.b. Further refinement and trials with partner farmers were described as planned, so they are not counted here as completed adoption.

Evaluation and supporting records

The next evalja farmer should have a dated handover and follow-up record. A prototype is not evidence of a granted patent, a licensed product or a university spin-off.

Presenting rice planting technology

Agribusiness programme and P4S Laskar Pelangi | News published 7 March 2025

Activity and university contribution

Agribusiness student Muhammad Salman Al Farizy As Sise presented a modern rice-planting tool at P4S Laskar Pelangi. The account describes a presentation on mechanised planting and discusses operation at different farm scales. It identifies more consistent spacing and reduced labour time as intended benefits and describes interest from participants, including vocational school learners and agricultural business actors. [\[02\]](#)



Figure 2. Photograph accompanying the university news report on the rice-planting technology presentation.

Documented output and SDG relevance

The evidenced contribution is technology communication and an introduction to agricultural mechanisation. It is relevant to domestic technological capability and the potential upgrading of production processes. The account does not establish the tool's intellectual property ownership, manufacturing volume, number of adopting farms or sustained field performance.

Evaluation and supporting records

The article includes a numerical time-saving statement, but no comparative trial design or dataset. This report therefore does not use that figure as a verified result. Performance evaluation should specify field conditions, planting area, operators, equipment settings and the manual comparison before estimating savings.

Retain the event agenda, presentation, equipment identification and training record. Follow-up trials should record time per unit area, planting consistency, operating cost and farmer usability. Wider distribution and manufacturing employment remain prospective unless supported by dated production and sales records.

Creating a campus agricultural demonstration plot

HIMAGRI student association / News published 19 February 2025

Activity and university contribution

The Agribusiness student association, HIMAGRI, reported work on previously unused campus land near the Faculty of Social and Political Sciences. The account describes use of a mini tractor for soil preparation and sprinkler irrigation. Students were guided by the Agribusiness programme, with the intention of developing the area into a demonstration garden. [\[03\]](#)



Figure 3. Photograph associated with the university report on HIMAGRI's campus agricultural plot.

Documented output and SDG relevance

The record supports practical use of agricultural equipment in a campus learning environment. The proposed public demonstration role was a future development in the source and is not treated as an established public facility. The project offers a pathway to technical learning and resource-efficiency investigation rather than proof of infrastructure resilience.

Evaluation and supporting records

A useful evaluation would establish the plot boundary, irrigation arrangement, crop calendar and responsibility for maintenance. Water-use efficiency should be tested through metering or a documented volume estimate alongside crop outputs. Sprinkler installation alone cannot establish reduced water consumption.

Retain a site plan, equipment records, dated progress photographs and student practical logs. If community access is later offered, document the access arrangements and visits. Record breakdowns, repair costs and seasonal performance to determine whether the site provides reliable learning infrastructure.

Demonstrating BSF cultivation for local production

KKN PMM in Kulo village | Activity 27 July 2025 | News published 5 August 2025

Activity and university contribution

KKN PMM students delivered a Black Soldier Fly larval cultivation demonstration at a community member's premises in Kulo village. Agrotechnology student Aldhy Iskandar guided the activity. The account describes education on preparing the cultivation enclosure, breeding, maintenance and harvesting, with larvae presented as an alternative feed resource linked to the use of organic waste. [\[04\]](#)



Figure 4. Photograph accompanying the university account of the BSF cultivation demonstration in Kulo.

Documented output and SDG relevance

The documented output is a local demonstration and knowledge-transfer activity. Its relevance to SDG 9 is the introduction of an accessible production method and a potential resource-recovery pathway. The source does not quantify waste diverted, feed produced, costs saved or continued operation after the event.

Evaluation and supporting records

Follow-up should assess technical feasibility before claims of scale or savings. A production log could track organic inputs, survival, harvest mass and the uses of the resulting material. Compare operating requirements with available local skills, space and materials. Environmental benefit requires evidence about the inputs actually processed and the alternative waste-management route.

Retain demonstration materials, attendance, enclosure specifications and a partner follow-up record. Production and resource-efficiency figures should use clearly defined units and periods. Any analysis of feed quality or suitability needs appropriate testing and should not be inferred from general descriptions in the news.

Accessing laboratory learning through collaboration

Agricultural Product Technology programme and UNHAS / Reception 11 February 2025

Activity and university contribution

UMS Rappang reported the reception of Agricultural Product Technology students at the Feed Chemistry Laboratory, Faculty of Animal Husbandry, Universitas Hasanuddin, on 11 February 2025. The article, published the following day, described a planned internship with lecturer and laboratory-staff supervision. Intended learning covered proximate analysis, moisture, ash, fat, fibre and protein, alongside laboratory techniques and equipment use. [\[05\]](#)



Figure 5. Photograph accompanying the university report on students entering the partner laboratory placement.

Documented output and SDG relevance

The evidence establishes the start of a collaborative laboratory placement and its intended technical scope. It illustrates access to a partner's scientific facilities and a route to analytical capability under target 9.5. It does not establish that UMS Rappang owns that laboratory, or that every planned procedure was completed.

Evaluation and supporting records

Assessment should connect the placement with demonstrated competence. Students could prepare sample-handling records, explain analytical calculations and interpret results under supervision. Laboratory quality assurance and induction should be documented separately from participation. A later completion record is needed to confirm the actual duration and results.

Retain placement letters, the agreed learning plan, laboratory access and safety induction records, student logs and supervisor assessments. Any samples or datasets used publicly should be appropriately anonymised and approved. Do not present an announced placement as a completed research project or an industrial service contract.

Transferring digital technology knowledge to teachers

SMAN 1 Sidrap | Activity 24 July 2025 | News published 29 July 2025

Activity and university contribution

A UMS Rappang research and community service team delivered training to 52 teachers at SMAN 1 Sidrap. Led by Rustam Efendy Rasyid, the activity addressed Computer Assisted Instruction and Internet of Things approaches for higher-order thinking skills. The account describes theory, practical exercises and simulations for technology-supported teaching materials. [\[06\]](#)



Figure 6. News image accompanying the university page on CAI and IoT training for SMAN 1 Sidrap teachers.

Documented output and SDG relevance

The evidence supports a technology knowledge-transfer activity with a reported attendance of 52 teachers. It contributes to digital capability, with a strong cross-link to SDG 4. Its relationship to SDG 9 concerns the diffusion of technological knowledge; it is not evidence of new broadband infrastructure or measured connectivity improvements.

Evaluation and supporting records

Follow-up should examine whether teachers used the methods in lessons and whether they could maintain or adapt the materials. Record a sample of teacher-created outputs and assess them against an agreed rubric. Attendance and positive feedback should be distinguished from demonstrated skill and classroom implementation.

Retain the signed attendance list, agenda, training materials, practical tasks and follow-up examples. If IoT devices were used, record their purpose and configuration. Any claims about improved student learning require a suitable assessment design, rather than being inferred from teacher participation.

Supporting digital innovation in local enterprises

Community service supported by BIMA 2025 | News published 4 November 2025

Activity and university contribution

A UMS Rappang community service team reported training on digitalisation and product innovation for marketplace competitiveness. Afrillia Cahyani led the activity, with Rahman Yakub contributing material on digital marketing, branding and marketplace promotion. The account describes practical sessions and the handover of production tools and materials to community partners. [\[07\]](#)



Figure 7. Photograph associated with the university report on BIMA-supported digitalisation and product innovation.

Documented output and SDG relevance

The documented contribution combines knowledge transfer with production support. It is relevant to small-enterprise integration into markets under target 9.3 and to locally relevant innovation under target 9.b. The article does not specify a complete beneficiary total, itemised equipment quantities or verified sales after the intervention.

Evaluation and supporting records

Evaluation should determine whether partners continue using the tools and can independently maintain product listings. Assess whether the equipment addresses a production bottleneck and whether its operating costs are manageable. Online visibility, customer enquiries, confirmed sales and profitability should be tracked as separate stages.

Retain the grant and activity records, partner identities, training materials and signed equipment handover. A follow-up should compare product quality, output and market use using the same definitions before and after assistance. The grant programme label does not by itself establish funding value or expenditure.

Publishing student research in digital technology

DIGITEK Volume 1 Number 1 | Issue published 25 August 2025

Activity and university contribution

University news published on 4 September 2025 highlighted Digital Business students' involvement in the first issue of DIGITEK. The account names seven students and describes academic writing guidance. The original issue record confirms publication on 25 August 2025 and lists five articles covering agricultural IoT, smart homes, UI and UX methods, e-commerce stock recommendations and Instagram marketing. [\[08, 09\]](#)



Figure 8. Source image accompanying the university news item on student participation in the first DIGITEK issue.

Documented output and SDG relevance

The issue documents a scholarly dissemination output. It supports research learning and the exchange of knowledge relevant to target 9.5. Several contributions are literature reviews, which synthesise prior work; publication does not demonstrate deployment of an IoT system or commercial use of a digital product.

Evaluation and supporting records

A useful institutional review would map which authors and outputs belong to UMS Rappang, retain persistent article links and record subsequent use of the findings. Publication counts, research quality and external application answer different questions. The issue's five articles should not be treated as five university inventions or as a complete annual research total.

Retain the issue metadata, article PDFs, authorship affiliations and assessment or supervision records. If publication leads to a prototype, enterprise collaboration or a deployed service, document that later stage independently. Citation or usage figures should state the database and retrieval date.

Infrastructure and research performance review

SDG 9 reporting should connect individual activities with a clear account of the university's research resources, partnerships and infrastructure. The reviewed news establishes selected uses of technology and partner facilities. It is insufficient to measure the condition, capacity or accessibility of all university assets.

Reporting area	Current evidence position	Additional records needed
Research capacity	Projects and learning activities are documented; institutional R&D totals are unavailable.	Research staff FTEs, funding awards, actual expenditure and project register.
Infrastructure and reliability	Selected agricultural equipment and partner laboratory access are described.	Asset inventory, ownership, condition, access rules, maintenance and downtime.
Technology transfer	Demonstrations, training and equipment assistance are recorded.	Agreements, partner acknowledgements, adoption records and follow-up outcomes.
Industry relationships	The cases concern community and technical learning partners; industry income is not established.	Defined industry contracts, deliverables and verified income by reporting period.
Intellectual property and enterprise	Prototype work is documented; no patent or spin-off total is established.	Granted IP records, ownership, licences and separately verified company information.
Digital inclusion	Training is reported, with no institutional connectivity performance series.	Network coverage, uptime, accessible services, costs and user access evidence.

Resilience and equitable access

An infrastructure review should examine how equipment and services remain usable during disruption, who can access them and what arrangements cover repairs or replacement. Ownership and location matter: a placement at a partner laboratory demonstrates access through collaboration, not new university construction or a university-owned asset.

Limits of the available record

No institutional manufacturing value-added, transport infrastructure, mobile coverage or industrial emissions result is calculated here. Missing evidence does not establish that activities or policies are absent; it identifies the records needed for a defensible performance assessment.

Measurement framework for innovation outcomes

The measures below are proposed for future validation. They are not reported 2025 achievements or approved targets. Eight cases and eight source images describe the coverage of this document, rather than an institutional programme or beneficiary total.

Measure	Definition and verification	2025 position
Prototype development	Unique designs with dated specifications, functional test results and a development-stage record.	One feed-chopper case documented; no annual total
Technology adoption	Distinct users or partners using a technology after a defined follow-up, verified by logs or observation.	Not consolidated
Technical performance	Throughput, accuracy, energy or water per output unit under stated test conditions.	Comparative datasets not supplied
Training and skills	Attendance kept separate from assessed competence and subsequent use.	52 teachers reported in one case
Research outputs	Affiliation-verified publications and unique persistent identifiers; separate reviews from original studies.	A 2025 DIGITEK issue verified
Enterprise results	Verified market use, product quality, output, revenue and costs over comparable periods.	No measured change established
R&D resources	Actual expenditure and research staff FTEs using approved institutional definitions.	Institutional data required
Infrastructure performance	Operational availability, access, maintenance and repair measures for defined assets.	No annual series verified

Following the development pathway

Record the problem addressed, the design or method developed, testing, user feedback and subsequent adoption. Each stage should have a date and an owner. Claims about scale require distinct user or site counts; repeated visits to one site should not be counted as separate adoptions.

Comparability and attribution

Use a baseline, a defined observation period and comparable operating conditions. Record other changes that could influence results, such as crop season, prices or new equipment. Report change cautiously where university support is one of several influences. Use consented, aggregated partner data for public reporting.

Recommended actions and institutional review

These recommendations describe how the university could strengthen the evidence and assess results. They are proposed actions, not statements of approved commitments or completed implementation.

Priority	Proposed action	Suggested coordinating function
Validate the activity record	Confirm roles, dates and outputs with programme leaders and community partners.	Relevant study programmes and community service coordination
Document technology readiness	Collect specifications, functional tests and independent user feedback before claiming adoption.	Project supervisors and relevant technical teams
Measure sustained use	Follow up partner use of production tools, cultivation methods and digital marketing.	Community service and partner liaison functions
Consolidate research evidence	Verify affiliations, publication metadata, funded projects and actual R&D resources.	Research and publication coordination
Review infrastructure	Create a consistent record of asset ownership, access, maintenance and reliability.	Facilities and relevant academic units
Prepare public release	Resolve source ambiguities, review image permissions and approve an accurate version.	Institutional leadership and SDG reporting coordinator

Evidence package for each activity

A useful package contains the activity brief, assignment or agreement, attendance or partner confirmation, technical materials, dated photographs, outputs and a follow-up assessment. Keep source metadata with the material so that the activity can still be verified if an online page changes. Technical claims should link to test records rather than only a news story.

Overall assessment

The 2025 record shows student and staff engagement in applied technology, scientific learning and community knowledge transfer. It provides a sound activity narrative for SDG 9. Stronger outcome reporting would connect these contributions with measured technical performance, continued partner use and verified research and infrastructure resources.

Approval and publication

The university should validate the account with responsible units before approval. Public release should identify the reporting period, the actual publication date and the approved version. Additional evidence may support an updated report without changing the original dates of the activities.

Evidence and photograph register

Original Indonesian titles are retained to support retrieval. All links were accessed on 29 October 2026. Figures 1 to 8 correspond to sources [01] to [08].

[01] Mahasiswa Semester 2 Universitas Muhammadiyah Sidenreng Rappang Rancang Mesin Pencacah Pakan. UMS Rappang website, 24 July 2025. [Read evidence](#)

[02] Mahasiswa Agribisnis Perkenalkan Alat Penanaman Padi Modern. UMS Rappang website, 7 March 2025. [Read evidence](#)

[03] Inovasi Mahasiswa Agribisnis Lahan Kosong Disulap Jadi Kebun Percontohan dengan Teknologi. UMS Rappang website, 19 February 2025. [Read evidence](#)

[04] Mahasiswa KKN PMM UMS Rappang Kenalkan Inovasi Demplot Kandang Maggot di Desa Kulo. UMS Rappang website, 5 August 2025. [Read evidence](#)

[05] Mahasiswa THP UMSR Siap Menghadapi Tantangan di Dunia Kerja. UMS Rappang website, 12 February 2025. [Read evidence](#)

[06] UMS Rappang Latih Guru SMAN 1 Sidrap Penerapan CAI dan IoT Berbasis HOTS. UMS Rappang website, 29 July 2025. [Read evidence](#)

[07] PKM UMS Rappang Gelar Kegiatan Hibah BIMA 2025 Dorong Digitalisasi dan Inovasi Produk Lokal. UMS Rappang website, 4 November 2025. [Read evidence](#)

[08] Karya Mahasiswa Bisnis Digital UMS Rappang Hiasi Edisi Perdana Jurnal DIGITEK. UMS Rappang website, 4 September 2025. [Read evidence](#)

[09] DIGITEK Volume 1 Number 1, August 2025. Published 25 August 2025. [Original issue and article links](#)

[10] United Nations Department of Economic and Social Affairs. [Goal 9 targets and indicators](#)

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