

Övergripande kvalitetsrapport för all forskning genom komplett akademisk miljö produktionsteknik (KAM PT)

- uppföljning och planering av forskningens
mål och aktiviteter

Beslutsinstans

Dokumentansvarig

Version

*Denna mall är beslutad av Forsknings-och utbildningsnämnden (FUN)
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Inledning och processbeskrivning

Syftet med denna kvalitetsrapport är att säkra och utveckla kvalitén i högskolans forskning, genom att identifiera och bevara styrkor samt att identifiera och hantera förbättringsområden. Även arbetet med att skriva rapporten och det uppföljande dialogmötet kring rapporten är i sig kvalitetsdrivande. Målsättningen är att skapa goda förutsättningar för forskningens och de kompletta akademiska miljöernas (KAM) utveckling och förnyelse genom ett systematiskt kvalitetsarbete.

Beskrivning rapportmall

Rapportmallen har Högskolan Västs övergripande verksamhetsplan (ÖVP 2022-2024, HV 2021/431) och högskolans vision, mål och strategier (Vår väg framåt) HV 2021/568 samt Universitetskanslersämbetets (UKÄ) bedömningsområden som utgångspunkt (Vägledning för granskning av lärosätenas kvalitetssäkringsarbete avseende forskning reviderad maj 2021) relaterat till de olika områdena beskrivna i rapportmallen.

Under varje område finns en rad påståenden.

- Analysera om forskningen i huvudsak uppfyller påståendet, om så är fallet skriv *ja* i *uppfylld* rutan. Om ni ser en mycket bra uppfyllnad beskriv eller exemplifiera gärna detta under styrkor.
- Om ni anser att påståendet inte är i huvudsak uppfyllt, skriv då *nej* i rutan och formulera förbättringsförslag samt åtgärder, föreslagen ansvarig (vem/vilka som bör utföra åtgärd) och föreslagen tidsram (när det bör utföras) i tabellerna under påståendena.
- Är påståendet inte alls giltigt för forskningen, fyll då varken i ja eller nej och förklara varför i kommentarrutan. Detta hjälper oss att förbättra rapportens utformning.

Som bilaga och som stöd finns relevanta utdrag ut högskolelagen (1992:1434) som kan ha inverkan på kvalitén i forskningen och forskningsmiljöernas verksamhet, se punkt 10.

Processbeskrivning

- Forsknings- och utbildningsnämnden (FUN) reviderar mall och process för kvalitetssäkring av forskning baserat på tidigare års kommentarer samt förändringar i organisationen.
- FUN sänder mall för kvalitetsrapport för forskning till KAM-miljöernas verksamhetsledare.
- Innehållet i kvalitetsrapporten arbetas lämpligast fram av KAM-miljöernas verksamhetsledare tillsammans med alla forskningsgruppsledare och tematiska ledare inom AIL och PT och inom institutionerna.
- Om önskas så finns möjlighet till dialog med FUN- presidiet under arbetets gång.
- En övergripande sammanställning av de olika kvalitetsrapporterna görs av KAM-miljöernas verksamhetsledare och institutionernas prefekter tillsammans. KAM-miljöernas verksamhetsledare ansvarar för att den slutliga övergripande kvalitetsrapporten delges FUN.
- Styrkor och förbättringsområden från kvalitetsrapporter och dialogmöten sammanfattas av FUN och KAM-miljöernas verksamhetsledare till Högskolans ledningsgrupp (HLG) inför den strategiska dagen för forskning.
- FUN planerar ett dialogmöte med utgångspunkt från den övergripande kvalitetsrapporten tillsammans med KAM-miljöernas verksamhetsledare och prefekter. Forskningsgruppsledare, KAM-miljöernas verksamhetsledare och prefekter har möjligheter att bjuda in andra relevanta representanter.
- Efter HLG:s strategiska dag för forskning sker en återkoppling av FUN samt respektive KAM-miljöernas verksamhetsledare till alla forskningsgruppsledare, tematiska ledare inom AIL och PT samt institutionerna för fortsatt utveckling av forskningen och som underlag för extern granskning.

Omfattning/giltighet

Årlig kvalitetsuppföljning av all forskning sker genom de kompletta akademiska miljöerna från och med år 2023.

1 Uppföljning och planering av forskningens mål och aktiviteter

1.1 Kort sammanfattande analys och förbättringsförslag från 2023

Sammanfatta och analysera här de viktigaste styrkorna och förbättringsområdena hos den forskning som framkommit sedan förra kvalitetsrapporten.

Sammanfattande analys
• Key Strengths: ○ Increased Research Output: The number of publications has grown steadily across various research areas, reflecting a robust and active research environment. ○ Strong National Collaboration: There has been significant progress in establishing and maintaining collaborations within Sweden, which has enhanced the impact and visibility of research. ○ Integration of Research into Education: Research results have been effectively integrated into educational programs, enriching the curriculum and enhancing the learning experience for students. ○ Support for Sustainable Development: Many research projects have successfully incorporated principles of sustainability, focusing on ecological and economic aspects. • Key Areas for Improvement: ○ Enhancing International Collaboration: Although national collaborations are strong, there is a need to increase international partnerships to enhance global reach and research impact. ○ Improving Open Access Publication Rates: There has been a decline in the proportion of open access publications in recent years, which could limit the visibility and accessibility of research outputs. ○ Standardizing Peer Review Processes: Inconsistencies in the application of peer review for ongoing projects and funding applications were noted, suggesting a need for more standardized and rigorous peer review mechanisms. ○ Broadening the Scope of Research: Some research areas could benefit from further diversification to cover emerging fields and interdisciplinary topics, ensuring the university remains at the forefront of innovation.

Förbättringsförslag	Åtgärder	Föreslagen ansvarig	Förbättring genomförd?
Enhance International Collaboration	Develop a targeted strategy to expand international research collaborations, including establishing joint research projects and partnerships with leading global institutions.	Research leaders, International Office.	partly
Increase Open Access Publishing	Provide additional support and resources to researchers for open access publishing, including funding for article processing charges (APCs) and training on open access platforms.	Library, Grants and Innovation Office (GIO).	no
Standardize Peer Review Processes	Develop a formal peer review framework that outlines clear guidelines for evaluating research applications and ongoing projects, ensuring consistency and rigor across all areas.	Research leaders, Department heads, GIO.	partly
Broaden the Scope of Research	Encourage interdisciplinary research and the exploration of new and emerging research	Academic leadership, Thematic leaders.	partly

	areas by providing dedicated funding and support for exploratory projects.		
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1.2 Kort sammanfattning av forskningens vision, övergripande mål och prioriterade aktiviteter för perioden 2024 - 2025

Forskningens vision och övergripande mål för perioden. Vilka är styrkorna och hur ska de behållas och utvecklas? Vilka förbättringsmöjligheter finns och hur ska de hanteras och utvecklas genom prioriterade aktiviteter?

Forskningens vision och övergripande mål för perioden 2024 - 2025
Vision: To establish University West as a leading international research institution recognized for its innovation, excellence, and collaboration in its core research areas. The vision is to advance knowledge, foster sustainable development, and contribute significantly to societal and industrial challenges through cutting-edge research. Overall goals: Expand Research Excellence: Develop and maintain a high standard of research across all thematic areas, focusing on interdisciplinary collaboration, innovation, and knowledge transfer. Increase External Funding: Secure a diversified portfolio of funding sources, emphasizing international grants and industrial partnerships. Strengthen Industry Collaboration: Foster stronger partnerships with industry to co-create solutions and ensure research relevance and impact. Promote Sustainable Development: Integrate sustainability into all research activities to align with global and national sustainability goals. Enhance Research Infrastructure: Upgrade and modernize research infrastructure to support advanced research activities and attract top talent. Research Vision and Goals by Thematic Area:

- **Thermal Spraying:**
 - **Goal:** To become a globally recognized leader in advanced coatings by expanding research beyond thermal barrier coatings to new fields like renewable energy and automotive applications.
- **Logistics and Operations Management:**
 - **Goal:** Develop a new Master's program and establish long-term industry relationships to ensure research relevance and impact in the field of logistics and operations.
- **Additive Manufacturing:**
 - **Goal:** Maintain leadership in Powder Bed Fusion (PBF) technologies, focusing on sustainability and innovation in additive manufacturing processes.
- **Welding and Welding-Based Additive Manufacturing:**
 - **Goal:** Enhance infrastructure and collaborations to support research and development in welding and welding-based additive manufacturing technologies.
- **Automation:**
 - **Goal:** Advance research in automation technologies, such as robotics, AI, and machine learning, to support smart human-centered manufacturing, digital factories, and autonomous systems. The focus is on improving production efficiency, reducing costs, and integrating sustainable practices.
- **Advanced Non Destructive Testing & Evaluation:**
 - **Goal:** The Advanced NDT&E group's long-term vision is to evolve as a world-leading research group in non-destructive evaluation for integrity and quality assessment of components produced using additive manufacturing (AM). The research aims to enhance resource efficiency, particularly through life extension techniques and reducing material waste in manufacturing.
- **Electrical Engineering:**

- **Goal:** Strengthen partnerships with industry and expand research into sustainable technologies, particularly in battery and motor systems using national materials.

- **Computer Science:**

- **Goal:** Expand research in areas like artificial intelligence, machine learning, data analytics, cybersecurity, and the development of smart systems. This includes a strong emphasis on applications in digital health, smart cities, and digital transformation across industries.

Strengths and How to Maintain and Develop Them:

1. Strong Research Infrastructure and Expertise:

- Continue investing in cutting-edge research infrastructure and facilities, such as new equipment for thermal spraying, additive manufacturing, automation, and computer science. Leverage the expertise of senior researchers by creating mentorship programs to develop the next generation of researchers.

2. Wide Network of Industrial and Academic Collaborations:

- Maintain and strengthen existing collaborations with industry and academia through regular joint events, workshops, and collaborative projects. Develop strategic partnerships with new industrial players, particularly in emerging sectors such as renewable energy, digitalization, and sustainable manufacturing.

3. Established Leadership in Key Research Areas:

- Focus on maintaining leadership in established areas by promoting high-quality publications, participating in international conferences, and engaging in high-impact projects. Expand research into new applications and technologies within these areas to stay ahead of global trends.

Opportunities for Improvement and How to Address Them:

1. Opportunity to Diversify Funding Sources:

- Increase efforts to apply for international funding, particularly from EU programs like Horizon Europe. Develop targeted funding strategies for each

research area and train researchers in grant writing and application processes.

2. Improve Visibility and Recognition:

- Organize international symposiums, workshops, and conferences to showcase University West's research. Develop a strong online presence and utilize social media to disseminate research outcomes and increase visibility.

3. Enhance Interdisciplinary Collaboration:

- Create formal structures for interdisciplinary research, such as cross-thematic research groups and dedicated funding for collaborative projects. Encourage joint research proposals that involve multiple thematic areas.

4. Expand Research into New Areas:

- Identify emerging research areas relevant to societal and industrial needs, such as digitalization, AI, and sustainability. Encourage thematic areas to develop new research lines that align with these trends and secure funding for exploratory projects.

5. Integrate Sustainable Development More Deeply into Research:

- Mandate the inclusion of sustainability goals in all research proposals. Develop internal funding streams dedicated to projects that have a strong sustainability focus and organize training sessions on sustainable research practices.

	Prioriterade aktiviteter	Ansvar	Tidplan	Kommentar
1.	Maintain/Increase External Funding for Research	All senior researchers, with support from the Grants and	2024 onwards.	Expand the portfolio of industrial partners and explore relevant calls targeting

		Innovation Office (GIO).		profile applications.
2.	Establish New Areas of Research Focus	All senior researchers.	2024 onwards.	Explore new applications targeting circularity, resource efficiency, repair, and sustainability.
3.	Competence Development and Training for Personnel:	Course coordinators within each thematic area, with assistance from senior researchers.	2024	Develop and offer distance learning courses and training modules as part of ongoing projects.
4.	Enhance Infrastructure and Research Facilities	Heads of Departments Environments and Thematic Leaders.	2024-2025	Develop a strategic plan for procuring new equipment and upgrading facilities.
5.	Strengthen Collaboration Across Thematic Areas	Thematic leaders, Heads of Departments.	2024	Foster cross-thematic research initiatives and joint projects, particularly in areas such as sustainability

				and digital transformation.
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2 Förutsättningar

Gör en kort sammanfattning av planerad forskning inom forskningsmiljön.

2.1 Kort beskrivning av den planerade forskningen inom forskningsmiljön

The planned research activities within each research environment at Engineering Science at University West aim to align with the strategic objectives of enhancing research excellence, fostering sustainability, and strengthening industry collaboration. Below is a brief summary of the planned research for each thematic area:

1. Thermal Spraying:

- **Focus Areas:** Research on developing novel thermal spray coating processes for high-temperature applications, hybrid coatings, and coatings for renewable energy systems and automotive applications. Emphasis on extending component life, reducing material usage, and improving coating performance to support sustainability goals.
- **Planned Activities:** Collaborative projects with industrial partners, securing external funding for new research initiatives, and developing new applications of thermal spraying technologies in emerging markets.

2. Logistics and Operations Management:

- **Focus Areas:** A holistic approach to operations and supply chain management with an emphasis on digitalization, sustainability, and the impacts of information technology. Exploring sustainable supply chains and digital transformation in logistics.
- **Planned Activities:** Launching a new Master's program in Operations and Supply Chain Management, initiating projects like DIGHEP focusing on digitalization in healthcare, and exploring sustainability in supply chain management.

3. Additive Manufacturing:

- **Focus Areas:** Developing advanced Powder Bed Fusion (PBF) additive manufacturing processes focusing on sustainability, machine learning/AI,

reducing waste, and exploring hybrid manufacturing techniques. Integrating AM with other technologies to develop new applications.

- **Planned Activities:** Building new collaborations with industry partners, applying for international funding, and expanding research into areas such as renewable energy applications and lightweight structures for the automotive and aerospace sectors.

4. **Welding and Welding-Based Additive Manufacturing:**

- **Focus Areas:** Research on advanced welding techniques, welding-based additive manufacturing methods, and integrating new sustainable materials into welding processes. Developing innovative welding solutions for future manufacturing needs.
- **Planned Activities:** Enhancing collaboration with industry partners, particularly in the automotive and energy sectors, upgrading welding infrastructure, and expanding interdisciplinary research projects to explore new materials and techniques.

5. **Automation:**

- **Focus Areas:** Research on advanced automation technologies, including robotics, AI, and machine learning, to develop solutions for smart human-centered manufacturing, digital factories, and autonomous systems. The aim is to improve production efficiency, reduce costs, and integrate sustainable practices.
- **Planned Activities:** Developing collaborative projects with industrial partners to co-develop automation solutions, securing funding for advanced automation infrastructure, and integrating automation research with other thematic areas or scientific areas within WIL to foster interdisciplinary innovation.

6. **Advanced Non-Destructive Testing & Evaluation:**

- **Focus Areas:** Research on simulation-based non-destructive evaluation (NDE) techniques, focusing on ensuring the integrity and quality of additive manufacturing (AM) components. Key areas include X-ray computed tomography (XCT) and ultrasonic testing (UT), contributing to resource efficiency and sustainability through life extension and part repair.

- **Planned Activities:** Expanding research on NDE methods in collaboration with industry to improve quality assurance of AM-produced components, seeking external funding, and integrating NDE into Industry 4.0 frameworks. Developing new methods for part repair and recycling to align with circular economy goals.

7. Electrical Engineering:

- **Focus Areas:** Developing sustainable technologies for electrical systems, such as electric driveline subsystems using recyclable and sustainable materials. Research on replacing rare earth materials like cobalt and lithium with more sustainable alternatives like iron phosphate in battery systems.
- **Planned Activities:** Building partnerships with industry to develop a laboratory environment at Stallbacka, integrating renewable materials into electrical systems, and funding a new industrial research school with 12 PhD positions starting in September 2024.

8. Computer Science:

- **Focus Areas:** Research in computer science will center on areas such as artificial intelligence, machine learning, data analytics, cybersecurity, and the development of smart systems. There will be a strong emphasis on applications in digital health, smart cities, and digital transformation across industries.
- **Planned Activities:** Initiating projects that apply AI and machine learning techniques to real-world problems, such as healthcare diagnostics and urban management. Collaborating with other thematic areas (e.g., Automation and Logistics) to leverage data analytics and AI for optimizing manufacturing processes and supply chain management. Developing new cybersecurity frameworks to address emerging digital threats, and securing external funding through national and international grant applications.

9. Summary of Common Research Activities

Across all research environments, there is a shared focus on:

- **Promoting Sustainability:** All research activities incorporate sustainable practices, from developing eco-friendly materials to creating processes that reduce waste and energy consumption, or designing systems for a circular economy.

- **Fostering Industry Collaboration:** Strengthening partnerships with industry is crucial to ensure research remains relevant, impactful, and capable of addressing real-world challenges.
- **Expanding Research Excellence and Capacity:** Efforts to secure external funding, recruit talented researchers, and build state-of-the-art research infrastructure are key strategies to enhance research output and reputation.

Identifiera styrkor och förbättringsområden hos befintlig forskning. Kommentera, förklara och analysera i fritexttrutan nedan.

- Omfattar befintlig forskning den planerade forskningens bredd?
- Omfattar befintlig forskning den planerade forskningens djup?

Uppfylld

partly

partly

Befintlig forskning är väl anpassad till utbildningsutbudets ämnesbeskrivning eller huvudområdesbeskrivning och säkerställer sambandet mellan forskning och de olika utbildningsnivåerna på:

- grundnivå
- avancerad nivå
- forskarnivå

yes

partly

yes

Styrkor

Strong Link Between Research and Education: There is a clear link between research and education at all levels, ensuring that students have access to current and relevant research findings.

Diversity in Research Areas: The existing research covers a wide range of relevant topics, from materials technology and manufacturing to digitalization and automation.

Established International Collaborations: The research environments have strong international collaborations, which enhance research quality and provide access to global networks and resources.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Expand the Research Scope in Emerging Technology Areas	Identify and establish new research lines in areas such as hybrid manufacturing, AI and machine learning, and digital health.	Thematic leaders and senior researchers within each area.	2024–2025
Deepen Research in Strategic Key Areas	Allocate resources to recruit more senior researchers and doctoral students with expertise in specific strategic key areas	Research leaders and faculty management	2024
Strengthen the Integration of Research into Advanced Education	Update curricula and create more opportunities for advanced students to participate in research projects, particularly in AI, automation, and sustainable manufacturing.	Course coordinators and program managers	2024–2025

Eventuella kommentarer, förklaring, analys
Does the existing research cover the planned research scope? Partially: The existing research within each research environment covers a broad spectrum of topics relevant to the overarching strategic goals, such as sustainability, digitalization, and industry collaboration. However, certain research areas need to be strengthened or expanded to encompass new and emerging research lines, such as hybrid manufacturing and advanced automation technologies. Does the existing research cover the planned research depth? Partially: There is some depth in the established research areas, particularly in AM, welding, and thermal spraying, where there is a strong base of expertise and scientific output. However, to achieve an internationally leading position, especially in areas such as digitalization and AI, further specialization and deepening are required. More researchers need to focus on developing expertise in new technology areas and applications. Is the existing research well-aligned with the educational content descriptions or main subject areas and ensures alignment between research and different educational levels? Undergraduate Level: Yes – The existing research supports undergraduate education by integrating research findings into foundational courses, particularly in electrical engineering, logistics, and automation. Students are involved in research projects as part of their education, strengthening the link between research and teaching. Advanced Level: Partially – At the advanced level, such as in master's programs in welding, logistics and operations management, and automation, existing research is used to design course content and practical projects. However, there is potential for

further improvement by updating course materials and introducing more research-based activities.

Doctoral Level: Yes – The research at the doctoral level is strong and well-aligned with the main research areas. Doctoral projects are linked to the strategic goals of the current research environments, and research results actively contribute to education at the highest level.

The existing research is robust but can be further enhanced by broadening the research focus to include emerging technology areas of strategic importance for the future. Further deepening in these areas will help maintain and strengthen research quality and ensure a leading international position.

2.2 Forskningsmiljö

Identifiera styrkor och förbättringsområden inom forskningsmiljön. Kommentera, förklara och analysera i fritextrutan.

- Högskolans övergripande vision, mål och strategier för forskning är väl kända i KAM-miljön
- Aktiva forskare har tillgång till en relevant vetenskaplig miljö
- Jämställdhet främjas i forskningsmiljön
- Det finns den kompetens som behövs för att genomföra forskningen med god kvalité
- Det finns förutsättningar för kompetensutveckling och karriärstöd för forskare i alla skeden i karriären oberoende av anställningsform.

Uppfylld

partly

yes

partly

partly

partly

Styrkor

- **Well-Established Infrastructure and Collaboration Networks:** The research environments benefit from well-equipped laboratories and strong networks with industry and other academic institutions, providing a solid foundation for conducting high-quality research.
- **Commitment to Diversity and Inclusion:** There is a clear commitment to promoting diversity and inclusion, with measures to ensure gender balance in various roles and decision-making bodies.
- **Access to Competence Development Opportunities:** Researchers have access to various training and professional development opportunities, supporting continuous learning and skills enhancement.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagentidsram
Enhance Awareness and Alignment with Strategic Goals	Conduct regular workshops and seminars to discuss the university's vision, goals, and strategies, ensuring all researchers are aware and aligned with the strategic direction.	Department heads, thematic leaders.	2024
Improve Gender Equality Measures	Develop and implement specific initiatives to support gender equality, such as targeted recruitment efforts, mentorship programs for women and underrepresented groups, and regular monitoring of gender balance in research activities.	Equality officers (do not exist anymore?), HR department, research leaders.	2024–2025
Strengthen Competence in Emerging Research Areas	Recruit additional expertise in emerging areas such as AI, digital health, and sustainability-focused research. Encourage interdisciplinary	Research leaders, faculty management.	2024–2025

	collaboration to build capacity in these fields.		
Expand Access to Career Development Support	Create more inclusive career development programs, ensuring opportunities are equally available to all researchers, including those on temporary contracts or early in their careers.	HR department, research leaders.	2024

Eventuella kommentarer, förklaring, analys

The university's overarching vision, goals, and research strategies are well-known in the KAM environment as well as for the whole department:

- **Partially:** While there is a general awareness of the university's vision and goals, there is variability in how well these are understood and implemented across different research groups. Some researchers may not fully align their projects with the overall strategic direction.

Active researchers have access to a relevant scientific environment:

- **Yes:** The current infrastructure, facilities, and networks provide a conducive scientific environment for most active researchers. Laboratories, equipment, and collaboration opportunities are largely sufficient to support high-quality research.

Gender equality is promoted in the research environment:

- **Partially:** Efforts have been made to promote gender equality, such as ensuring balanced representation in committees and leadership roles. However, there is still room for improvement in areas like recruitment, mentorship, and support for career advancement for underrepresented groups.

There is the necessary competence to conduct high-quality research:

- **Partially:** There is a strong base of expertise within the research groups, especially in established areas like additive manufacturing and automation. However, there are gaps in certain emerging areas, such as AI and sustainability-focused research, where additional expertise is needed.

There are opportunities for skills development and career support for researchers at all career stages, regardless of employment form:

- **Partially:** While there are opportunities for career development, such as workshops and training programs, these are not always equally accessible to all researchers. Early-career researchers and those on temporary contracts may not receive the same level of support as permanent staff.

2.3 Förutsättningar för god forskningssed och etik

Identifiera styrkor och förbättringsområden för förutsättningar för god forskningssed och etik. Kommentera, förklara och analysera i fritextrutan.

- Den information som behövs för att främja god forskningssed och etik är tydligt kommunicerad
- Den information som behövs för att förebygga och hantera misstänkt oredlighet i forskning är tydligt kommunicerad

Uppfylld
partly
partly

Styrkor
• Clear Policies and Guidelines: The university has established clear policies and guidelines for promoting good research practice and ethics, providing a foundation for ethical conduct across all research environments. • Supportive Structures for Ethical Guidance: There are structures in place, such as ethics committees and designated ethics officers, that provide guidance and support to researchers on ethical issues, ensuring compliance with ethical standards. • Regular Training and Workshops: Regular training sessions and workshops are held to educate researchers on ethical standards, best practices, and procedures for handling misconduct.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Enhance Awareness and Understanding of Ethical Guidelines	Develop and implement targeted training programs and awareness campaigns to ensure all researchers, including new hires and early-career researchers, are familiar with ethical guidelines and their importance.	Ethics officers, research leaders, HR department.	2024

Improve Accessibility and Visibility of Information on Managing Misconduct	Create easily accessible resources, such as an online portal or handbook, detailing the procedures for reporting and managing suspected misconduct. Ensure that these resources are well-publicized and regularly updated.	Ethics committee, IT department.	2024
Strengthen the Culture of Ethical Conduct	Foster a culture of openness and transparency where ethical conduct is a core value. Encourage regular discussions on ethical dilemmas and case studies during departmental meetings and seminars.	Department heads, research leaders.	2024–2025

Eventuella kommentarer, förklaring, analys
The information needed to promote good research practice and ethics is clearly communicated: Partially: The university has made efforts to communicate the principles and guidelines for good research practice and ethics through various channels such as internal policies, workshops, and seminars. However, not all researchers may be fully aware of or understand the specific details or the importance of these practices. The information needed to prevent and manage suspected misconduct in research is clearly communicated: Partially: While there are established procedures for reporting and managing suspected misconduct, including guidelines and channels for whistleblowing, these are not always sufficiently understood or utilized by all researchers, especially newer or less experienced staff.

2.4 Förutsättningar för infrastruktur

Identifiera styrkor och förbättringsområden för att erbjuda forskarna ett ändamålsenligt stöd för prioritering och förnyelse av forskningsinfrastrukturer.

Kommentera, förklara och analysera nedan. Är det något som saknas, beskriv under kommentarer.

Det finns förutsättningar för stöd från:

- Grants and Innovation Office (GIO) angående forskningsprojekt och ansökningar
- biblioteket
- kommunikationsavdelningen
- ekonomiavdelningen
- akademiskt ledningsstöd
- utrustning och IT support
- servicecenter angående lokaler anpassade för forskning och forskningsverksamhet

Uppfylld
yes
partly
partly
yes
partly
partly
partly

Styrkor
• Strong Support from GIO and Finance Department: Both the Grants and Innovation Office and the Finance Department provide robust support for research funding, project management, and financial operations. • Availability of Basic IT and Equipment Support: Researchers have access to fundamental IT resources and equipment, ensuring that most routine research activities can be conducted efficiently. • Library Access: The library offers extensive access to academic resources, supporting the literature needs of most research groups.

Förbättringsområde n	Åtgärder	Föreslagenansvari g	Föreslagentidsra m
Enhance Access to Specialized Library Resources	Increase subscriptions to specialized databases and academic resources relevant to the strategic research areas of the university.	Library management.	2024

Strengthen Communications Support for Research	Develop a proactive communication strategy to highlight research achievements, engage with stakeholders, and promote collaborations. Train researchers in effectively communicating their work to diverse audiences.	Communication department.	2024–2025
Improve Availability of Advanced Equipment and Technical Support	Conduct a comprehensive review of current equipment and IT needs, and invest in upgrading and expanding the infrastructure to include advanced tools and technologies.	Academic leadership, IT department.	2024-2025
Enhance Research Facilities and Spaces	Develop and adapt more specialized research spaces to meet the evolving needs of research activities, especially for interdisciplinary and collaborative projects.	Service center, facilities management.	2024
Increase Academic Leadership Involvement	Encourage more direct	Academic leadership.	2024

in Infrastructure Planning	involvement of academic leaders in the strategic planning and prioritization of infrastructure investments to ensure alignment with university research goals.		
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Eventuella kommentarer, förklaring, analys

There is support available from the Grants and Innovation Office (GIO) regarding research projects and applications:

- **Yes:** The GIO provides valuable support in identifying funding opportunities, assisting with grant applications, and offering guidance on research project management.

Library:

- **Partially:** The library provides access to a wide range of academic resources and supports literature reviews and information retrieval. However, some specialized resources or databases may not be fully accessible, which could limit the research potential in specific areas.

Communications Department:

- **Partially:** The communications department supports the dissemination of research findings through various media. However, there may be gaps in proactively promoting research achievements or effectively engaging with external stakeholders.

Finance Department:

- **Yes:** The finance department offers adequate support for budgeting, financial planning, and the management of research funds, ensuring that financial operations are aligned with research needs.

Academic Leadership Support:

- **Partially:** Academic leadership provides strategic direction and decision-making support for research initiatives. However, there may be a need for more active involvement in prioritizing infrastructure needs and aligning them with the strategic goals of the university.

Equipment and IT Support:

- **Partially:** There is basic IT support and access to necessary research equipment. However, the availability of cutting-edge equipment and advanced technical support may be limited, especially in rapidly advancing fields.

Service Center for Facilities Suitable for Research Activities:

- **Partially:** The service center offers logistical support for research facilities, but there may be a need for more specialized spaces or facilities that are better adapted to current and future research demands.

2.5 Utformning, genomförande och resultat

Identifiera styrkor och förbättringsområden gällande utformning, genomförande och resultat. Kommentera, förklara och analysera i fritextrutan.

- Kollegial granskning används för att granska kvalitén i forskningsprojekt exempelvis vid
- seminarier
 - ansökningar
 - pågående forskningsprojekt
 - intern och extern presentation av forskning
 - extern sakkunniggranskning för att bedöma kvalitén i internfinansierade forskningsprojekt

Uppfylld
yes
partly
partly
yes
partly

Om annan kollegial granskning finns ange det nedan under kommentarer.

Styrkor
• Ongoing Peer Review Processes: The use of peer review for seminars and presentations helps maintain high research quality and provides valuable feedback to researchers. • Collaborative Environment: The internal and external presentation of research encourages collaboration and continuous improvement. • Commitment to Quality: There is a strong commitment to maintaining high standards in research design, implementation, and results through various peer review mechanisms.

Förbättringsområden	Åtgärder	Föreslagenansvarig	Föreslagen tidsram
Standardize and Enhance Peer Review for Applications and Ongoing Projects	Develop a formal peer review framework for research applications and ongoing projects to ensure consistent and comprehensive	Research leaders, department heads.	2024

	evaluation across all research areas.		
Increase Use of External Expert Review for Internally Funded Projects	Implement a policy requiring external expert review for all major internally funded projects to provide an additional layer of quality assurance.	Academic leadership, GIO.	2024–2025
Improve Scientific Communication and Cross-Thematic Collaboration	Create more opportunities for interdisciplinary workshops and seminars to enhance communication and collaboration across different research areas.	Thematic leaders, research coordinators.	2024

Eventuella kommentarer, förklaring, analys

Peer review is used to evaluate the quality of research projects in the following contexts:

- **Seminars: Yes** – Regular internal and external seminars are conducted where research is presented and critiqued by peers, promoting high standards of research quality.
- **Applications: Partially** – Peer review is applied to review funding applications, but the process could be further standardized and enhanced to ensure thorough feedback.
- **Ongoing Research Projects: Partially** – Some ongoing projects undergo internal peer review, but there is inconsistency in the frequency and rigor of these reviews across different research areas.
- **Internal and External Presentation of Research: Yes** – Research findings are regularly presented internally and externally, with feedback provided by peers and stakeholders to refine and improve research outputs.
- **External Expert Review to Evaluate Quality in Internally Funded Research Projects: Partially** – External expert reviews are sometimes used, but the use of external reviewers could be more systematic and frequent for internally funded projects.

3 Hållbar utveckling

Identifiera styrkor och förbättringsområden om i vilken mån hänsyn tas till hållbar utveckling i forskningen (se definition av de tre olika aspektområdena gällande hållbar utveckling nedan). Kommentera, förklara och analysera i fritextrutan.

- Forskningen tar hänsyn till hållbar utveckling
- Forskningen genomsyras av jämställdhet, jämlikhet och likabehandling

Uppfylld
partly
partly

Styrkor
• Commitment to Ecological and Economic Sustainability: Many research projects prioritize ecological sustainability by focusing on reducing environmental impacts, using sustainable materials, and developing eco-friendly technologies. Economic sustainability is also considered in projects aimed at resource efficiency and developing sustainable business models. • Focus on Inclusive Practices: There is a conscious effort to promote inclusivity and equal opportunities for researchers, reflecting the principles of social sustainability. This includes supporting diverse research teams and fostering an inclusive research environment.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Enhance Integration of Sustainability Across All Research Areas	Develop guidelines and training for researchers to better integrate sustainability principles (ecological, economic, and social) into all research projects. Ensure that sustainability is considered in the design, implementation, and	Sustainability officers, research leaders, faculty management.	2024-2025

	evaluation of all research.		
Strengthen Gender Equality, Equity, and Equal Treatment in Research	Implement additional measures to ensure gender equality and inclusivity across all research areas, such as setting clear targets for gender balance, conducting regular assessments of equity, and providing specific support for underrepresented groups.	HR department, equality officers, research leaders.	2024

Eventuella kommentarer, förklaring, analys

The research takes sustainable development into account:

- **Partially:** While many research projects incorporate elements of sustainability, the integration is not uniform across all research areas. Some projects focus heavily on ecological or economic sustainability, while others may lack explicit consideration of sustainability principles, particularly in new or emerging areas of research.

The research is characterized by gender equality, equity, and equal treatment:

- **Partially:** Efforts have been made to promote gender equality and inclusivity within the research environment, such as gender-balanced research teams and attention to equitable access to research opportunities. However, there is room for further improvement to ensure these values are consistently upheld in all aspects of research.

Ekologisk hållbarhet	Ekologisk hållbarhet innebär att jordens ekosystem har långsiktig förmåga att förse människan med de nyttigheter som denna behöver för att tillfredsställa sina behov. Det kan handla om naturresurser, ekosystemtjänster (t.ex. pollinering) och det värde som vistelse i naturen har för en människas välbefinnande. Dessutom inbegrips ”naturens kapacitet att kunna ta hand om (assimilera) olika typer av utsläpp och miljöpåverkan (Hedenus, Persson och Sprei, 2015:15).
Ekonomisk hållbarhet	Hur vi hushållar med resurser (ändliga naturresurser och ekonomiskt kapital) som har skapats av människan som är viktiga för att upprätthålla mänsklig välfärd nu och i framtiden. (Hedenus, Persson och Sprei 2015:15).

Social hållbarhet	Att människor organiserar sina samhällen på ett sätt som är långsiktigt hållbart vad gäller att bidra till mänskligt välbefinnande, där människors grundläggande behov och de mänskliga rättigheterna säkerställs. Social hållbarhet handlar vidare om att bidra till att människor är inkluderade, exempelvis oavsett kön, utbildnings- och inkomstnivå, social status, etnicitet, religion eller annan trosuppfattning, sexuell läggning, könsöverskridande identitet eller uttryck, ålder och funktionsnedsättning.
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4 Arbetsintegrerat lärande och kunskap i samverkan

Identifiera styrkor och förbättringsområden angående integrering av arbetsintegrerat lärande (AIL) och kunskap i samverkan. Kommentera, förklara och analysera i fritextrutan.

- För ett ömsesidigt lärande identifieras behovet av forskning tillsammans med samverkanspartners. Arbetsintegrerat lärande¹ eller kunskap i samverkan är tydligt i forskningen, vad gäller:
 - nationella och internationella samarbeten inom akademien
 - nationella och internationella samarbeten utanför akademien
- Forskningsresultat kommer till nytta i utbildningar inom lärosätet
- Forskningsresultat kommer till nytta i det omgivande samhället

Uppfylld

partly

partly

yes

partly

Styrkor

- Active Academic Collaborations: The university has established strong national and international collaborations within academia, facilitating knowledge exchange, joint research projects, and academic mobility.
- Effective Integration of Research in Education: Research results are effectively used to enrich the institution's education programs, ensuring that students benefit from the latest knowledge and research developments.

¹ **AIL som filosofi:** På Högskolan Väst ser vi både teoretisk och praktisk kunskap som lika betydelsefulla och ömsesidigt beroende av varandra. Vi menar att avancerad kunskap skapas på många håll i samhället, inte minst när människor varje dag utövar sina yrken.

När den praktiska kunskapen integreras med den teoretiska skapas ny kunskap och nytt lärande. Vi letar därför ständigt efter nya sätt att integrera dessa två kunskapsformer.

AIL är också högskolans portal till gränsöverskridande samverkan och ömsesidigt kunskapsutbyte med omvärlden, både i vår forskning och i vår utbildning. Vår samverkan använder AIL som en lärandeprocess där praktisk och akademisk kunskap integreras och fördjupas genom samskapande.

<https://www.hv.se/arbetsintegrerat-larande/om-arbetsintegrerat-larande/tre-dimensioner-av-ail/>

- Engagement with the Community: There are ongoing efforts to engage with the local community, transferring knowledge and research findings to benefit society.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Expand and Deepen Collaborations with External Partners	Develop strategies to enhance partnerships with industry, public sector organizations, and other non-academic entities at both national and international levels. Focus on co-creating research agendas and work-integrated learning opportunities.	Research leaders.	2024-2025
Increase the Impact of Research Results on the Community	Create more structured initiatives to communicate research findings to the broader community, such as public lectures, workshops, and partnerships with local organizations. Promote the practical application of research results in solving community problems.	Communications department.	2024
Strengthen International Collaborations	Build and expand international networks with both academic and non-academic partners to foster a global exchange of knowledge,	International office, research leaders.	2024-2025

	increase research visibility, and enhance mutual learning.		
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Eventuella kommentarer, förklaring, analys

The need for research is identified together with collaboration partners for mutual learning. Work-integrated learning or knowledge collaboration is clearly evident in the research concerning:

- **National and international collaborations within academia: Partially** – There are active collaborations with national and international academic partners, but there is room to expand and deepen these relationships to enhance mutual learning and research impact.
- **National and international collaborations outside academia: Partially** – While there are partnerships with organizations outside academia, such as industry and public sector entities, there is potential to strengthen these collaborations further and increase their impact on research and education.

Research results are utilized in the institution's education programs:

- **Yes** – Research findings are effectively integrated into education, particularly in advanced courses and programs, providing students with up-to-date knowledge and practical skills.

Research results are utilized in the surrounding community:

- **Partially** – There is some evidence of research results benefiting the surrounding community, such as through public engagement activities and partnerships with local organizations. However, there is potential to expand the scope and reach of these benefits.

5 Forskningens frihet

Identifiera styrkor och förbättringsområden angående forskningens frihet (se utdrag från högskolelagen, bilaga 1). Kommentera, förklara och analysera nedan.

- Det finns förutsättningar som möjliggör att bedriva fri forskning utifrån målet om akademisk frihet (HL 6§).

Uppfylld

partly

Styrkor

- Support for Academic Freedom: The university is committed to upholding the principles of academic freedom, allowing researchers considerable autonomy in selecting their research questions, methods, and dissemination channels.
- Encouragement of Independent Research: Researchers are encouraged to pursue independent lines of inquiry, fostering a diverse and innovative research environment.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Minimize Restrictions Related to Funding and Institutional Priorities	Develop clearer guidelines to ensure that external funding sources and institutional priorities do not unduly restrict researchers' freedom to choose their research topics or methods.	Academic leadership, GIO.	2024
Enhance Transparency in Decision-Making Processes	Improve transparency around decision-making processes related to research funding allocation, topic selection, and project approval to ensure they align with the principles of academic freedom.	Department heads.	2024

Eventuella kommentarer, förklaring, analys

There are conditions that enable free research in line with the goal of academic freedom (Higher Education Act, Section 6):

- **Partially:** The university provides an environment that generally supports academic freedom, allowing researchers to freely choose research topics, methods, and publication venues. However, there may be certain limitations related to funding sources, contractual obligations, or institutional priorities that could restrict absolute freedom in some cases.

6 Finanseringsstrategi

Identifiera styrkor och förbättringsområden angående forskningens finansieringsstrategi för perioden. Kommentera, förklara och analysera nedan. Stöd vad gäller denna fråga kan fås av GIO.

Styrkor
• Diverse Funding Sources: The current funding strategy includes a mix of national and international grants, industry collaborations, and internal funding, which provides a stable foundation for research activities. • Support from the Grants and Innovation Office (GIO): The GIO provides valuable support in identifying funding opportunities, assisting with grant writing, and offering strategic advice to researchers, enhancing their ability to secure external funding. • Strong Track Record in Securing Competitive Grants: The university has a strong track record of obtaining competitive grants, both nationally and internationally, which demonstrates its research strength and credibility.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Expand International Funding Opportunities	Develop a targeted strategy to increase applications for international funding, such as EU Horizon Europe grants and other global funding sources. Provide additional training and resources for researchers to improve their grant writing skills for international applications.	Grants and Innovation Office (GIO), research leaders.	2024-2025
Strengthen Industry Collaboration for Funding	Foster stronger partnerships with industry by identifying strategic partners and developing joint funding proposals for	Research leaders, GIO.	2024-2025

	collaborative research projects. Create incentives for researchers to engage with industry partners.		
Improve Diversification of Funding Sources	Encourage research groups to diversify their funding portfolios by exploring non-traditional funding sources, such as private foundations, philanthropic organizations, and public-private partnerships.	Research leaders, department heads.	2024

Eventuella kommentarer, förklaring, analys

- While the funding strategy currently supports a broad range of research activities, there is a need to enhance efforts in securing international funding, strengthening industry collaborations, and diversifying funding sources to ensure sustainability and growth.
 - By broadening the funding base and enhancing strategic collaborations, the university can better support its research ambitions and reduce reliance on a limited number of funding sources.
 - Implementing these improvements will help create a more robust and resilient funding strategy, enabling the university to sustain and expand its research activities in a highly competitive global environment.

7 Publiceringar, citeringar, etc.

Under denna punkt är möjligt för forskningsmiljön att välja de mätetal som är mest relevanta för dem. Kommentera, förklara och analysera nedan. Stöd vad gäller denna fråga kan fås av biblioteket.

Styrkor

- Increased Number of Publications: The data shows a steady increase in the number of publications reported in the university's publication database (DiVA) from 2019 to 2023, indicating a growing research output across various research environments.

- Strong National Collaboration: There is a significant amount of national collaboration within Swedish academia and industry, which has continued to grow over the years, strengthening the university's network and influence within Sweden.
- Diverse Publication Types: Researchers have published in various formats, including journal articles, conference papers, book chapters, and doctoral theses, reflecting a diverse and active research community.
- International Collaborations: Active international collaborations are evident, with ongoing partnerships across multiple countries, notably with India, Brazil, Canada, and Italy, enhancing the university's global research profile.
- Open Access Publishing: A substantial proportion of the publications are open access, increasing the visibility and accessibility of research outputs to a broader audience.

Förbättringsområden	Åtgärder	Föreslagen ansvarig	Föreslagen tidsram
Increase Open Access Publications	Encourage more researchers to publish in open access journals or platforms to maximize the visibility and impact of research. Provide support and guidance on open access publishing options and funding opportunities for article processing charges (APCs).	Library, Grants and Innovation Office (GIO).	2024
Enhance International Collaboration	Develop targeted strategies to increase international research collaborations, particularly with countries and institutions where there has been less engagement. Focus on building strategic partnerships, joint research projects and	Research leaders, International Office.	2024-2025

	co-authored journal papers.		
Improve Citation Impact	Promote research outputs more actively through academic networks, social media, and conferences to increase citations. Encourage researchers to publish in high-impact journals and collaborate with highly cited researchers or institutions.	Communications Department, Research Leaders.	2024
Monitor and Analyze Publication Quality	Implement regular reviews of publication quality using metrics such as impact factors, citation counts, and journal rankings to ensure high standards of research output.	Library.	2024

Eventuella kommentarer, förklaring, analys

- While the overall publication output and collaboration levels are strong, there is room for growth in terms of increasing open access publications, enhancing international collaborations, and improving citation impact.
 - By focusing on these areas, the university can further increase the visibility, impact, and quality of its research, aligning with its strategic goals for enhancing global research standing.
 - Strengthening these aspects will contribute to a more dynamic and impactful research environment, supporting the university's mission to be a leader in both national and international research arenas.

8 Eventuella förbättringsförslag – kvalitetsrapport för forskning

Här kan ni skriva ner eventuella förbättringsförslag gällande denna kvalitetsrapports innehåll och processbeskrivningen som presenteras i kapitlet Syfte och

Processbeskrivning i början av rapportmallen. Identifiera styrkor och förbättringsområden. Kommentera, förklara och analysera i fritextrutan.

Styrkor

- The quality report provides a thorough framework for evaluating various aspects of research quality, including infrastructure, funding, ethical practices, and collaboration. This comprehensive approach ensures that all critical areas are assessed.
- The report is well-structured with a clear process description, which makes it easier for different research groups to follow and contribute. The use of specific criteria for evaluation promotes consistency and comparability across different research environments.
- The report emphasizes the importance of continuous improvement by identifying strengths and areas for development, supporting the university's goal of maintaining high research standards.

Förbättringsområden

- Introduce more specific and quantifiable metrics for evaluating different aspects of research quality. This could involve defining key performance indicators (KPIs) for each criterion to provide a clearer assessment framework.
- Internationalization is in particular a dimension of research quality that could be more visible in terms of; researcher exchanges, co-publishing, international invited talks, etc.

Eventuella kommentarer, förklaring, analys

- By streamlining data collection, and using clearer evaluation metrics, the report can provide a more comprehensive and actionable overview of research quality.

9 Bilaga 1. Utdrag ur Högskolelagen (1992:1434)

Relevanta utdrag ut högskolelagen (1992:1434) som kan ha inverkan på kvalitén i forskningen och forskningsmiljöernas verksamhet.

2 § Staten ska som huvudman anordna högskolor för

1. utbildning som vilar på vetenskaplig eller konstnärlig grund samt på beprövad erfarenhet, och

2. forskning och konstnärlig forskning samt utvecklingsarbete.

I högskolornas uppgift ska det ingå att samverka med det omgivande samhället och informera om sin verksamhet samt verka för att forskningsresultat tillkomna vid högskolan kommer till nytta.

3 § Verksamheten skall bedrivas så att det finns ett nära samband mellan forskning och utbildning.

3 a § I högskolornas verksamhet ska vetenskapens trovärdighet och god forskningssed värnas.

I lagen (2019:504) om ansvar för god forskningssed och prövning av oredlighet i forskning finns bestämmelser om forskares och forskningshuvudmäns ansvar för att forskning utförs i enlighet med god forskningssed och om att en särskild nämnd ska pröva frågor om oredlighet i forskning. Lag (2019:505).

4 § Verksamheten ska avpassas så att en hög kvalitet nås i utbildningen och forskningen.

De tillgängliga resurserna ska utnyttjas effektivt för att hålla en hög kvalitet i verksamheten.

Kvalitetsarbetet är en gemensam angelägenhet för högskolornas personal och studenterna. Lag (2013:119).

5 § Högskolorna skall i sin verksamhet främja en hållbar utveckling som innebär att nuvarande och kommande generationer tillförsäkras en hälsosam och god miljö, ekonomisk och social välfärd och rättvisa.

I högskolornas verksamhet skall jämställdhet mellan kvinnor och män alltid iakttas och främjas.

6 § För forskningen skall som allmänna principer gälla att

1. forskningsproblem får fritt väljas,

2. forskningsmetoder får fritt utvecklas och

3. forskningsresultat får fritt publiceras. Se även förslag till lag om ändring i högskolelagen ([1992:1434](#)).