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**CONNECTING TECHNOLOGIES,
CREATING TOMORROW**

NOROO



SPECIAL THEME



CONNECTING TECHNOLOGIES

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SPECIAL THEME

CONNECTING TECHNOLOGIES, CREATING TOMORROW

NOROO's achievements do not end as a single outcome. Years of accumulated expertise have shaped a range of innovative technologies that gain momentum toward a more promising future as they build on one another. This convergence comes to life at the "NOROO New Technology and New Product Exhibition." After years of intensive research, affiliates across NOROO gathered to share their technologies and capabilities. The exhibition provided a clear view of how far today's technology has advanced, while opening discussion on the next stage of growth. Looking back on the exhibition, we see a moment when different fields came together and began moving toward a broader future.

NOROO的成果不仅停留于单一结果。在长期积累的经验基础上，新研发的各项创新技术相互贯通，拓展为具有更大潜力的未来动力。这一技术融合的舞台，正是"NOROO新技术与新产品展示会"。集团旗下各子公司齐聚一堂，分享多年来潜心研发积累的各类技术与能力，评估当前技术水平，并共同探索迈向更高层次的路径。不同领域的技术在交汇中激发出新的可能性，让我们一同回顾这一融合创新的现场。



Connecting Technologies, Opening Tomorrow

"2026 NOROO NEW TECHNOLOGY AND NEW PRODUCT EXHIBITION"

The "2026 NOROO New Technology and New Product Exhibition" was held at NOROO Anyang Plant Research Institute from Apr. 22 to 24. More than a showcase of accumulated technology, the exhibition demonstrated how each technology is applied in practice and invited discussion on how each could advance. At the exhibition, NOROO members introduced new technologies in person and pictured what NOROO can become in the years ahead.

技术互联共创未来

“NOROO新技术与新产品展示会”

4月22日至24日, NOROO新技术与新产品展示会在NOROO安养工厂研究所举行。本次展示会不仅展示了长期积累的技术成果,还介绍了这些技术的实际应用领域,并进一步探讨了其未来的应用可能性。在NOROO新技术与新产品展示会上, NOROO员工亲自介绍创新技术,共同描绘NOROO的未来蓝图。



AI FOR TOMORROW, OPTIMAL TECHNOLOGY FOR THE WORLD

The NOROO Group has continued R&D while steadily building a broad base of technology assets, guided by a mid- to long-term vision. Over time, a broader question came into focus. How do individual advances work in real industries and actual sites, and how can separate technologies connect across wider applications? The "2026 NOROO New Technology and New Product Exhibition" was organized around four concepts with this direction in mind: AI Future Technology, Process Optimization, Core Performance, and Surface Technology. The exhibition placed greater weight on major research directions instead of focusing on product introductions. A data-driven structure made the technologies easier to understand, with hands-on elements such as specimens giving visitors a closer look at the products. Chairman Han Young-jae visited the exhibition on the second day. Project members explained the technologies in person and held a question-and-answer session.

AI Future Technology opened the exhibition with NOROO Smart Mix, NOROO Smart Color, and SmartTint. NOROO Smart Mix is an AI color-mixing system that provides paint-mixing data to authorized dealerships. The system reduces mixing design time by more than 90% compared to the existing process, improving work efficiency. NOROO Smart Color brings the apartment repainting design process into an app. Color designs can be applied directly to on-site photos, allowing customer feedback to be reflected in real time. From there, AI handles repetitive tasks while designers focus on more advanced work, maximizing sales capability and professional expertise. SmartTint is a cloud-based color-matching system with improved accuracy. The system combines a new



AI与未来, 最优技术与世界

NOROO集团从中长期视角持续开展研发,稳步积累多元化技术资产。在这一过程中,有必要深入了解各项技术成果如何应用于实际产业和现场,以及它们之间如何互联与延展。为满足这一需求, NOROO新技术与新产品展示会特别设置了四大主题:“AI Future Technology(AI未来技术)、Process Optimization(流程优化)、Core Performance(核心性能)以及Surface Technology(表面技术)”。本次展示相较于新产品介绍,更加侧重展示研究的主要脉络,通过以数据为核心的展示结构帮助理解,同时强化了样品等产品体验环节。展示会第二天,韩荣率会长亲临现场,相关负责人围绕各项技术进行了详细介绍,并与参观人员开展了问答交流。

在第一展区AI Future Technology(AI未来技术)中,重点展示了NOROO Smart Mix(智能配方)、NOROO Smart Color(智能色彩)和SmartTint(智能调色)。NOROO Smart Mix(智能配方)是一套为特约经销商提供涂料配方数据的AI调色系统。与传统流程相比,其配方设计时间可缩短90%以上,显著提升了工作效率。NOROO Smart Color(智能色彩)通过应用程序实现公寓重新粉刷设计流程。在施工现场,可直接在照片上实时应用色彩设计,从而即时采纳客户反馈。之后,重复性作业由AI完成,高级优化作业由设计师亲自执行,以最大化提升销售能力与专业水平。SmartTint(智能调色)是一套基于云服务的调色系统。通过引入可识别汽车涂料金属颗粒感的新型测色仪,进行最佳配比搜索,并结合强化的色彩校正算法,显著提升了调色准确性。NOROO 涂料的流动技术团队演示了SmartTint(智能调色),并强调“该技术能够节省现场调色时间和涂料用量,从而提升效率与经济效益。”

在Process Optimization(流程优化)展区,首先展示了Fast-Process Waterborne Basecoat System(快速工艺水性底漆系统),同时展出了2-Tone Color Exterior Film for Automotive(汽车双色外饰膜)、Simplified-Process Coating for LFI Method(适用于长玻纤注塑工艺的简化工艺涂层)、Peelable Paint(可撕除涂料)以及Low-Odor Floor Coating System(低气味地坪涂料体系)。在该展区,参观者可以亲自观看并触摸应用新技术的汽车引擎盖,直观感受技术差异,因此



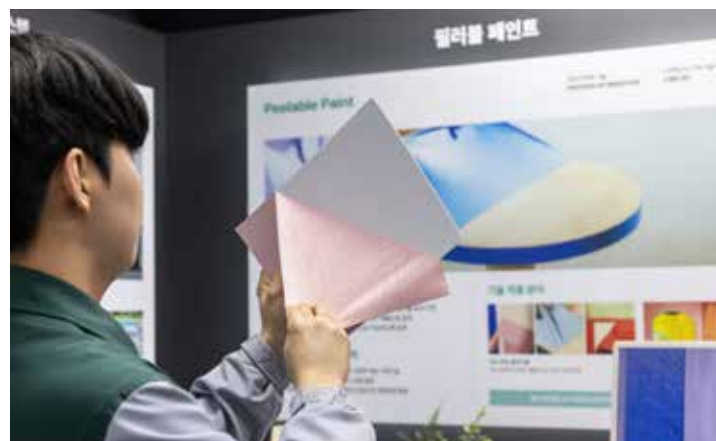
colorimeter capable of recognizing the texture of metallic particles in automotive coatings, an optimized formula search, and an enhanced color correction algorithm. The Mobility Technology Team at NOROO Paint demonstrated SmartTint, describing it as "a solution designed to reduce on-site color-mixing time and paint consumption while improving efficiency and profitability." The Process Optimization section opened with the Fast-Process Waterborne Basecoat System, followed by 2-Tone Color Exterior Film for Automotive, Simplified-Process Coating for LFI Method, Peelable Paint, and Low-Odor Floor Coating System. A vehicle hood with the new technology on display drew particular attention as visitors could see and touch the surface to feel the difference firsthand. For Peelable Paint made with Polyvinyl Butyral (PVB) resin, removable samples allowed visitors to experience the technology's strengths firsthand. Peelable Paint also uses recycled resin, and it has received environmental certification; thus making it an eco-conscious solution. The Low-Odor Floor Coating System applies a solvent-exempt coating under the US Environ-



mental Protection Agency (EPA) regulations, giving the technology greater competitiveness across a wider market. As Chairman Han Young-jae listened to each technical explanation, he asked how the technology could be applied across other industries and fields; thus encouraging a closer look at the potential for expansion.

OPENING THE DOOR TO CONVERGENCE AND EXPANSION

Core Performance was followed by several technologies on display, including Multipurpose Underwater Adhesive, Anti-static Cleanpoxy Lining, Advanced Coating for 3rd-Gen Automotive Monitor Panels, and Water-Wash Proof High-Viscosity Structural Adhesive. Multipurpose Underwater Adhesive delivers excellent adhesion and curing performance on a wide range of materials, even at room temperature or in underwater environments. Anti-static Cleanpoxy Lining helps prevent fires caused by static electricity and sparks. Anti-static Cleanpoxy Lining uses a single layer of carbon nanotubes with high electrical conductivity to secure dispersion stability. The product is designed to meet demand from the rapidly growing semiconductor and data center markets. Advanced Coating for 3rd-Gen Automotive Monitor Panels helps customers accelerate the development of new vehicle models through core technologies such as excellent electrical insulation, material coverage, and color expression. Water-Wash Proof High-Viscosity Structural Adhesive is designed to help protect passengers in a collision. It delivers outstanding



dispensing performance compared with competing products, with the local sourcing of main raw materials further strengthening price competitiveness. With such technologies, NOROO Paint continues to secure new customers and strengthen market competitiveness.

Surface Technology closed the exhibition with Multilayer Digital Print PCM, Cr-Free Matte Treatment for GI Steel, Pattern MATT, and other technologies. New technologies and products reflected the constant efforts of NOROO members. The developments further strengthened market differentiation and competitiveness by maximizing three-dimensional texture, expressing a wide range of images, and improving storage stability and workability for global production environments.

With hands-on specimens and explanation panels showing the name of each person in charge, the exhibition became a venue for communication through questions and conversation. Chairman Han Young-jae focused on how the technologies could connect and expand across different fields, adding depth to the discussion through wide-ranging questions. After viewing the exhibition, he shared words of encouragement. "The level of research is extremely high, and every technology has strong potential as a major development theme. I am proud of everyone and grateful for all your hard work," he said.

The exhibition opened the doors to future connections and broader opportunities by sharing accumulated technologies. Going forward, the NOROO Group will accelerate this momentum, expand synergy across technologies, and develop these efforts into meaningful results in actual industrial settings.

展区吸引了大量关注。尤其是利用PVB(Polyvinyl Butyral, 聚乙烯醇缩丁醛)树脂的Peelable Paint(可撕除涂料), 现场提供了涂料样品, 让参观者能够体验其技术特性和优势。Peelable Paint(可撕除涂料)采用回收树脂为原料, 并获得环境标志认证, 是一款环保型涂料。Low-Odor Floor Coating System(低气味地坪涂料体系)则采用美国环保局(EPA)规定的豁免溶剂, 使其在更广阔的市场中具备竞争力。韩荣宰会长在听取负责人对各项技术讲解的过程中, 就相关技术在其他产业和领域的应用方式提出意见, 以评估其扩展潜力。

开启融合与拓展之路

在Core Performance(核心性能)展区, 展出了Multipurpose Underwater Adhesive(多功能水下胶粘剂)、Anti-static Cleanpoxy Lining(防静电洁净环氧内衬涂料)、Advanced Coating for 3rd-Gen Automotive Monitor Panels(第三代车载显示屏面板专用高端涂料)以及Water-Wash Proof High-Viscosity Structural Adhesive(耐水洗高粘度结构胶)等技术。其中, Multipurpose Underwater Adhesive(多功能水下胶粘剂)即使在常温及水下环



境中, 也能对多种材料实现优异的粘接与固化; Anti-static Cleanpoxy Lining(防静电洁净环氧内衬涂料)采用具有优异导电性的单层碳纳米管, 确保了分散稳定性, 可有效预防因静电和火花引发的火灾事故, 是一款能够满足当前快速增长的半导体及数据中心市场需求的产品。Advanced Coating for 3rd-Gen Automotive Monitor Panels(第三代车载显示屏面板专用高端涂料)凭借卓越的电绝缘性能、基材遮盖力以及色彩表现力等核心技术优势, 可协助客户快速推进新车型开发。Water-Wash Proof High-Viscosity Structural Adhesive(耐水洗高粘度结构胶)等技术用于在车辆发生碰撞时保障乘车人员安全。与竞争产品相比, 该产品不仅具有优异的施胶作业性能, 而且通过主要原材料的国产化进一步提升了价格竞争力, 是一款性能与经济兼备的优秀产品。凭借上述技术实力, NOROO 涂料不断开发新客户, 提升市场竞争力。

Surface Technology(表面技术)展区主要展示了Multilayer Digital Print PCM(多层数码印花预涂钢板)、Cr-Free Matt Treatment for GI Steel(镀锌钢无铬哑光处理工艺)以及Pattern MATT(哑光纹理处理工艺)等技术。这些新技术和新产品通过增强立体感、呈现多样图案, 并提升储存稳定性与施工便捷性, 使其更适合全球生产环境, 进一步强化了市场差异化与竞争力, 同时也体现了NOROO员工持续努力的成果。

展示会通过可供亲身体验的样品以及标注各负责人姓名的说明展板, 成为一个能够自然引发提问与交流的沟通空间。韩荣宰会长特别关注各项技术之间的关联性与拓展潜力, 并通过广泛而深入的提问, 进一步激发了对技术发展的思考。参观结束后, 韩会长表示, "研究水平非常高, 每一项技术都作为重要的开发主题, 展现出巨大的发展潜力。我为大家感到骄傲, 也衷心感谢大家。"他的点评为每一位NOROO团队成员带来了鼓舞和激励。

本次展示会既是企业积累技术的分享平台, 也为探索技术互联与全新发展机遇拉开了序幕。未来, 集团将持续加快这一发展步伐, 进一步拓展技术协同效应, 并推动其在实际应用中取得切实且有意义的成果。



A Shared Step Toward NOROO's Future

NOROO PAINT RESEARCH DIRECTOR AHN JAE-BEOM SHARES THE STORY BEHIND THE "2026 NOROO NEW TECHNOLOGY AND NEW PRODUCT EXHIBITION"

The "2026 NOROO New Technology and New Product Exhibition" served as an opportunity to review the current state of technologies developed across the NOROO Group and explore how those technologies can connect and expand. At the center of preparing the exhibition, NOROO Paint Research Director Ahn Jae-beom emphasized two directions: connections between technologies and applicability. The following highlights explore how the "2026 NOROO New Technology and New Product Exhibition" put both directions into practice:

并肩前行的 NOROO的未来

NOROO涂料研究所所长安宰范讲述的“NOROO新技术与新产品展示会”

本次NOROO新技术与新产品展示会是对NOROO集团长期发展的技术现状进行检视,同时也是探索技术互联与拓展的一次重要契机。负责筹备本次展示会的NOROO涂料研究所所长安宰范是整个展示会的核心人物,他特别强调了“技术互联”和“应用潜力”这两个方向。下面就带大家一起来了解NOROO新技术与新产品展示会的主要亮点。

AN EXHIBITION TO SEE, DISCUSS, AND APPLY

"In day-to-day work, opportunities to learn about research and technologies from other affiliates are actually quite limited. But a technology's value comes not only from development, but also from real-world application. A single technology can create synergy as it is applied across various fields. That is why each affiliate needs a clear understanding of what other affiliates are developing. We prepared this exhibition in the hope that it would become a starting point for such synergy."

Research Director Ahn Jae-beom opened the interview by explaining the core purpose behind the "2026 NOROO New Technology and New Product Exhibition." The purpose was "connection and expansion," a theme emphasized throughout the exhibition. When Chairman Han Young-jae visited the exhibition, his most fre-

quent questions were, "Where can this technology be applied?" and "Can this technology be used in other markets?" Research Director Ahn expressed hope that unexpected application ideas could emerge when NOROO members from different fields view a single technology from new perspectives. Making the exhibition easy to understand was essential, as the goal was to help visitors follow different areas of research and technology more intuitively. "We brought together each company's achievements around technologies



developed over the years. Instead of simply listing a large number of technologies, we focused on creating an exhibition where employees could see, discuss, and eventually apply what they encountered. We wanted to show the direction of the NOROO Group's technology and help visitors naturally imagine how separate technologies could connect and expand."

BUILDING A STRONG FOUNDATION THROUGH A TECHNOLOGY NETWORK

Manager Lee Kyung-hwa at the NOROO Paint Research Institute said that the greatest effort went into clearly communicating the main points of each core technology. "We spent about three to four months preparing the exhibition. The process included selecting the technologies, refining the explanations, and planning the overall display. With support from the Digital Marketing Team, we strengthened the visual elements and created an exhibition that balanced technical depth with clear communication," she said, expressing her appreciation.

Technical discussion did not stop at the exhibition hall. The conversation continued online, where NOROO members could hear more detailed explanations, ask questions freely, and share opinions. The exhibition achieved even stronger impact by connecting offline and online channels.

According to Research Director Ahn Jae-beom, this exhibition would mark the beginning of stronger internal technology exchange starting this year. "We plan to form a council of research directors and share the strengths of each company. By exchanging core technologies across affiliates, we will build a structure where technology developed in one area can be expanded and applied in another." This marks an effort to broaden the R&D approach, laying a strong foundation for greater technological competitiveness across the NOROO Group.

The exhibition marked a starting point for wider technology applications and broader approach to R&D. As different technologies come together, new ideas will begin to take shape. Communication among NOROO members will open further opportunities for development, strengthening NOROO from within and giving clearer form to the future created together.

可看、可交流、可落地的展示会

"在工作过程中,其实很少有机会接触到其他子公司的研究与技术。技术的‘开发方式’固然重要,但‘应用方式’同样关键。当一项技术应用于多个领域时,可以产生协同效应。因此,子公司之间相互了解彼此的技术和产品是必要的。本次展示会的策划目的,就是希望能够激发这种协同效应。”



研究所所长安宰范在采访一开始便点明了本次NOROO新技术与新产品展示会的核心理念。这正是前文反复强调的“互联与拓展”。韩宰范会长在参观期间,提出最多意见的便是“这项技术还能应用于哪些领域?”“是否也能够应用于其他市场?”安宰范所长表示,当来自不同领域的NOROO员工以全新的视角审视同一项技术时,有望激发出意想不到的应用创意。

为实现这一目标,如何将不同的研究成果和技术以更加通俗易懂的方式呈现出来,使更多人能够轻松理解,成为本次展示会筹备过程中的重要课题。“我们以既有研发技术为核心,汇总各子公司的成果,但并非简单罗列技术,而是将核心放在观展交流、落地应用上。通过展示集团技术的发展脉络,自然而然地引导员工思考技术的互联性与拓展潜力。”

搭建技术网络,筑牢发展根基

负责筹备本次展示会的NOROO涂料研究所课长李京花表示,在准备过程中,最重要的是准确传达各项核心技术的关键亮点。“从技术选题、讲解方式到展示整体构成,我们大约花了三到四个月的时间进行准备。得益于与数字营销团队的协作,我们在强化视觉元素的同时,实现了技术深度与表达力的平衡。”李京花课长借此表达了对数字营销团队的感谢。

对技术的理解与交流并未局限于展示会现场,而是延伸至线上空间。在线上平台,NOROO员工可以继续聆听技术的详细讲解,自由提问并交流意见。线上线下的结合进一步提升了展示会的整体效果。

安宰范所长表示,将以本次展示会为契机,从今年起进一步加强集团内部的技术交流。“我们计划组建研究所所长协商机制,分享彼此的特色与经验。通过各公司的核心技术交流,打造技术跨领域转化、落地应用的良性机制”,这一举措将升级集团整体研发模式,为全面提升集团技术竞争力夯实根基。

本次展示会正式拉开了技术跨界应用、研发模式革新的序幕。不同技术在交汇中孕育新的创意,NOROO员工交流探讨,化作研发新动能。随着这一进程不断推进,NOROO的技术实力将更加坚实,由NOROO全体员工共同描绘的未来蓝图也将愈发清晰而丰富。

Where Change Begins Together-Change Agent

KICK-OFF WORKSHOP FOR THE NOROO GROUP'S FIRST CHANGE AGENT(CA) GROUP

After marking its 80th anniversary last year, the NOROO Group has been taking steady steps toward introducing a new personnel system. This year marked another milestone with the launch of the first CA group. CA members will gather feedback from the field, share those insights across the organization, and help drive change from within. We visited the workshop as the CA members took their first official step.

携手开启变革新篇章Change Agent

NOROO集团Change Agent 1期Kick-Off研讨会

去年, NOROO集团迎来创立80周年, 正稳步推进新人事制度的落地。今年, 作为又一项重要举措, CA(Change Agent)1期正式启动。CA是最贴近一线、倾听并传递现场声音的变革推动者。让我们一起走进他们首次正式活动暨正式启程的研讨会现场。



INNOVATION STARTS IN THE FIELD

Since 2026, the NOROO Group has been preparing a structured, group-wide personnel system reform through the Human Resources Innovation Task Force(TF). Designing the system's direction is important, but equally important is how the field accepts the system and puts it into practice. To help the reform take root in the field, the TF selected CA members to gather opinions from across the organization and support change initiatives from within.

A total of 10 employees from different affiliates were selected as CA members through an open group-wide call. Each member brings a strong understanding of his/her affiliate's work environment and organizational culture, along with the communication skills and sense of purpose needed to support change. Moving forward, CA members will run the roundtable program "Heart-to-Heart Conversations" and other opinion-gathering activities to share on-site feedback with the TF. CA members will also explain organizational culture initiatives, campaigns, and personnel system updates in a way employees can easily understand, helping change take root naturally. Through this role, CA members will do more than simply deliver messages; they will serve as a communication bridge between the field and the TF while helping lead change from within.

Full-scale activities began with a workshop held in Gwangmyeong on Apr. 28. At 8:30 AM, 10 CA members and 5 members of the Human Resources Innovation TF gathered. President Han Won-seok and Head of Talent Management Office Lee Sun-mi also joined the workshop to support the start of a new journey. After orientation and introductions, the workshop continued with sessions that helped participants better understand the organizational culture and clarify the CA role. Invited lecturer and writer Lee Cheol-won discussed the essence of organizational culture.



向创新迈进, 从现场出发

NOROO集团自2026年起组建人事革新TF, 系统推进集团层面的人事制度改革工作。制度方向的设计固然重要, 但更关键的是现场如何理解并落实这些变化。为此, TF决定选拔CA, 作为连接纽带, 更近距离倾听组织内各类意见, 并将变革课题自然传播到一线。

通过全公司公开招募, 最终选出10名成员。他们了解各子公司的业务特点和组织氛围, 具备良好的沟通能力和问题意识。今后, 他们将通过运营“心声畅谈”座谈会以及多种意见收集活动, 把现场的鲜活声音传递给TF。同时, 他们还将开展组织文化改善活动和宣传活动, 并用通俗易懂的方式向员工解读人事制度相关内容, 帮助变革平稳落地。由此可见, CA不仅是单纯的信息传递者, 更是连接现场与TF的沟通桥梁和变革执行者, 承担着重要角色。

4月28日, 在光明市举办的研讨会标志着CA正式启动活动。早上8点半, 10名CA与5名人事革新TF成员齐聚一堂, 韩元硕社长和人才管理室室长李善美也一同到场, 为新的征程加油助威。在通过说明会和互相介绍进行暖场后, 活动围绕拓宽对组织文化的理解, 以及CA角色的具体定位展开。

担任受邀讲师的作家李哲元深入讲解了组织文化的本质, 并分享了掌握组织成员及组织意图、建立关系、健康处理冲突的方法。在随后的“沙漠生存游戏”中, 大家在有限信息下进行决策, 亲身体会到了领导力的重要性, 并在寻求共识的过程中提升了协作能力。

He also explained how to understand the intentions of members and the organization, build relationships, and handle conflict in a healthy way. During the "Desert Survival Game," participants experienced the importance of leadership in decision making with limited information and strengthened their sense of collaboration as they worked toward consensus.

BUILDING MOMENTUM FOR CHANGE AND GROWTH

The afternoon continued with sessions focused on more practical capabilities. Instructor Jang Eun-yeon led a lecture on "CA Strategic Communication," focusing on facilitation techniques applicable in the field. Specific examples introduced ways of asking questions that naturally elicit others' thoughts and emotions, as well as response methods for different situations. Participants deepened their understanding by applying the techniques through simulations. The program also included short-term feedback, allowing participants to experience various workplace situations in advance and learn from one another's approaches.

The workshop concluded with the reading of the declaration, presentation of appointment certificates, and group photo. "The TF and CA will continue working to support shared growth between the company and its employees and ensure that the NOROO Group remains an organization loved by future generations," said Lee Sun-mi, Head of Talent Management Office. According to him, CA members will play an important role in the field, helping employees take part in HR innovation as active drivers of change.

"CA activities and HR innovation will help us prepare for the future together by opening up communication with

employees. A flexible attitude toward change and a strong institutional foundation are essential to designing the organization's future. Individual interest and action can spread across the organization, take shape as systems, and grow into culture. I hope everyone will take an active part in this HR innovation, which will become a source of pride for the NOROO Group," President Han Won-seok said after presenting appointment certificates to each CA member. His remarks reflected high expectations for CA members, who will stay closest to employees and gather feedback directly from the field. The workshop served as the official starting point for CA activities and a chance to build momentum through warm encouragement. Members from different affiliates came together around a shared goal and built a sense of solidarity as partners in creating change. CA members will now return to their workplaces, gather on-site feedback, and implement change one step at a time. The first step now raises anticipation for a fresh wave of change across the NOROO Group's organizational culture and personnel system.

为变化与成长注入动力

下午更加聚焦于工作所需的实务能力建设。张恩延讲师带来的“CA战略性沟通”课程重点介绍了可在现场运用的引导技巧。课程通过具体案例，讲解了如何自然引导对方表达想法与情感的提问方式，以及不同情境下的应对方法。参与者通过模拟练习直接应用所学，加深了理解。在较短时间内获得反馈的课程设计，不仅让大家提前体验了现场的多样情境，也让成员们能够从彼此不同的沟通方式中获得新的启发。

研讨会最后进行了宣言朗读、任命状颁发及集体合影。李善美室长鼓励道，“为了实现公司与员工的共同成长，成为下一代也持续受到喜爱的组织，TF和CA将持续推进各种活动。希望CA能在现场发挥应有作用，让员工作为变革的主体积极参与人事革新。”

韩元硕社长向每位CA颁发了任命状，他表示，“CA活动与人事制度革新是我们基于与员工的沟通，为迎接未来而开启的征程。为规划组织的未来，必须具备应对变化潮流的灵活姿态与制度基础。每个人的关注与行动将延展至整个组织，最终成为制度和文化。希望大家积极参与将成为NOROO集团骄傲的本次人事革新。”同时他还表达了对CA成员的期待，希望他们能够在最贴近员工的位置，认真倾听并积极沟通。

研讨会既是CA的正式起点，也是一个以温暖鼓励为团队注入动力的契机。来自不同子公司的成员们确认了共同目标，也建立了携手推动变革的团结感。今后，CA将回到各自岗位，倾听现场声音，并以此为基础一步步推动变革。我们满怀期待，相信这第一步将为NOROO集团的组织文化和人事制度带来一股清新的变革之风。



Manager Kim Sung-ki, Research Team 2, NOROO Auto Coatings | Manager Woo Dong-gyun, Sales Team 1, NOROO Loginet | Senior Associate Kang A-ryung, Architectural T/S Team, NOROO Paint | Assistant Manager Song Seung-gyu, Safety and Environment Team, NOROO Chemical | Manager Park Ji-heon, Digital Marketing Team, NOROO Paint



Senior Associate Jung Yun-gyeom, Sales Planning Team, NOROO Paint | Assistant Manager Pi Jae-hyeok, Quality Control Team, NOROO Paint | Assistant Manager Jang Hyeon-tae, Research Team 1, NOROO Coil Coatings | Associate Yoon Sang-jun, Chilseo Resin Production Team, NOROO Paint | Senior Associate Lee Keon-u, ESQM Team, NOROO Paint

CA Voices for Change

- _ Through various collaborations, I have seen how communication methods and work structures within an organization can greatly affect outcomes. As a CA member, I hope to contribute to organizational growth by helping create small but clear changes and improvements that support real work.
- _ The workshop helped me realize that organizational culture is change itself. As part of the first CA group, I will help bring employee feedback into NOROO's innovation process and turn it into meaningful change across the organization.
- _ The workshop gave us a clearer sense of the company's commitment to change including where NOROO is headed next. I have often felt that our work culture is somewhat rigid compared with our organization's capabilities and potential. Through CA activities, I believe we can begin changing small things one by one. I will take action first and help create change.
- _ I believe a positive, proactive attitude improves work efficiency and supports the company's growth. Through smooth communication, I hope to reduce unnecessary friction among employees and help build an organizational culture that makes each workday feel a little lighter.
- _ The workshop taught me the importance of a clear vision and a flexible attitude. I am grateful to be part of the first step toward change. I will help build a NOROO Group where people can view situations flexibly, communicate clearly, and smile together. Let's go, first CA team!

Filling the Final 2% on the Way to Perfection

A DAY WITH CHOI JAE-HYEOK, ASSISTANT MANAGER OF RESEARCH TEAM 1 AT NOROO COIL COATINGS

Coil coating is a technology that continuously applies and cures paint on steel sheet surfaces, imparting various functional properties. A thin coating film plays an important role in slowing corrosion and extending product life. Today, coil coating technology has advanced beyond protection. The coating now performs a wider range of functions, from fingerprint resistance and enhanced corrosion resistance to lasting exterior quality. Choi Jae-hyeok, Assistant Manager of Research Team 1 at NOROO Coil Coatings, continues his work on the final 2% that brings coil coating closer to perfection.

追求极致填补最后2%的一天

NOROO卷钢涂料研究1组代理崔在赫的一天

卷钢涂装 (coil coating) 是一项对钢板进行连续涂装与固化处理, 并赋予其多种功能的技术。这层看似薄薄的涂层, 在防止钢材腐蚀、延长产品使用寿命方面发挥着至关重要的作用。近年来, 这项技术不断升级优化, 其功能已不仅限于保护作用, 还具备防指纹、增强耐腐蚀性、保持外观品质等多种作用。今天, NOROO卷钢涂料研究1组代理崔在赫依然专注于卷钢涂装 (coil coating) 技术的研究与开发, 致力于填补最后的2%空白。

RESEARCH TOWARD 100%

NOROO Coil Coatings was the first paint company in Korea to apply coating technology to steel coils. In this context, a coil refers to a wide steel sheet used as an industrial metal material. The material is usually rolled into a cylindrical form for transport and storage, hence the term "coil". After the coating process, steel sheets are used across everyday life, including home appliances, building materials, construction, solar structures, agricultural facilities, and livestock facilities.

Behind these applications is surface treatment technology, the field Assistant Manager Choi Jae-hyeok works in as part of Research Team 1. His current focus is galvanized iron (GI), particularly GI containing magnesium and aluminum. "Commonly, the material is referred to as zinc-aluminum-magnesium (Zn-Al-Mg) alloy-coated steel sheet. Compared with many other materials, this steel sheet offers stronger corrosion resistance and can even be used in coastal areas. The drawback is blackening, which occurs when the surface is exposed to moisture." explains Assistant Manager Choi Jae-hyeok. One role of a surface treatment agent is to maximize a material's strengths while compensating for its weaknesses. Research and development for this work is built on countless cycles of experimentation and verification. In a highly



competitive paint market, meeting customer performance requirements takes persistence. Some projects continue for one to two years, while others take two to three years to reach the optimal result. Assistant Manager Choi Jae-hyeok describes this research as "finding the final 2%." "Our goal is to achieve 100% of the physical properties customers require. But filling the final 2% is extremely difficult. I believe research requires the initiative to think through problems and find solutions independently." In search of the final 2%, Assistant Manager Choi turns to senior colleagues, papers, and patent materials for insight. Recently, he has also started using AI. "AI can be wrong, but when I run experiments based on suggested raw materials, even the results become another form of data," he said, describing a new change in his research process.

KEEPING THE BASICS FIRST, MOVING TOGETHER

Assistant Manager Choi Jae-hyeok begins each day by checking his work. He reviews the previous day's results, organizes the main points, and builds a structured plan for the day based on the findings. Afterward, he conducts experiments in product development and responds to customer needs. Technical service is also an important part of his work, including analysis requests for delivered products and customer requests for improvement. Research in the lab remains closely connected to customer sites. In both research and day-to-day work, he places the greatest value on the basics and cooperation. "I believe the basics matter most, including following safety rules and carefully managing variables in advance as conditions change." Having grown up



with siblings, Assistant Manager Choi says he naturally developed a habit of looking out for people around him. He approaches busy colleagues first to lend a hand and prepares in advance for customer needs. An open attitude toward cooperation also leads to a willingness to learn. "I am learning so much from Department Manager Park Youngsam, our team leader, and Deputy General Manager Park Chang-hyun, my senior mentor. Their guidance helps our team create synergy through strong teamwork. I was truly happy when a result developed by our team was finally selected by a customer."

Another memorable moment came when he saw an advertisement for a product he had helped develop at a movie theater. Although surface treatment agents are not easily visible, the moment made him realize how widely the product was being used in actual industrial sites. He smiled as he said, "I felt truly proud because I could tell the person I was with, 'This is what I do.'"

Now in his fifth year at the company, Choi feels how much he has changed. At first, even the language used at work felt unfamiliar. Now, he leads discussions himself and receives requests for support from other departments. Assistant Manager Choi continues to expand his role gradually as he gains experience at the intersection of research, sales, and customer response. His goal is simple.



He wants to continue researching for a long time in good health and safety, while becoming a trusted professional in his field. Today, he continues to work with colleagues with a smile, stay true to the basics, and fill the final 2% needed to move closer to completion.

追求100%的研究

NOROO卷钢涂料是韩国首家将涂装技术应用于钢铁卷材领域的涂料公司。这里所说的卷材(coil)是指用于工业领域的大型金属钢板,由于其通常以卷状形式进行运输和储存,因此被称为“卷钢”。经过涂装处理的钢板广泛应用于家电、建筑材料、建筑工程、光伏结构物以及农业和畜舍设施等与日常生活息息相关的各个领域。

崔在赫代理所在的研究1组主要负责钢板表面处理剂的研发工作。他目前专注于“热浸镀锌钢板(GI)”,致力于开发适用于含镁和铝成分的GI材料的专用表面处理剂。“这类材料通常统称为‘锌-铝-镁(Zn-Al-Mg)合金镀层钢板’。相较于其他材质,这类产品具有优异的耐腐蚀性,即使在海边等高腐蚀环境中也能使用。但其缺点是容易受湿气影响而出现表面发黑现象。我目前正在研发一种表面处理剂,希望在有效抑制发黑现象的同时,进一步发挥其优异的耐腐蚀性能。”崔在赫代理这样解释道。正如他所说,表面处理剂的重要作用之一就是充分发挥材料优势,同时弥补其不足之处。

而要实现这一目标,往往需要经过无数次反复实验和持续验证。为了在激烈的涂料行业竞争中脱颖而出,并满足客户对产品性能的要求,往往需要经过一两年,甚至两三年的持续钻研,才能取得理想成果。崔在赫代理将这一过程称为“寻找最后2%的工作”。“100%满足客户需求、实现目标性能,是我们研发工作的最终目标。但真正困难的,恰恰是最后那2%。在我看来,研发工作最重要的是主动思考解决方案,并坚持不懈地攻克问题。”为了填补这最后2%的空白,崔在赫代理不仅积极向前辈请教经验,还会查阅大量相关论文和专利资料。近年来,他也开始借助人工智能技术辅助研发。谈及研究方式的新变化时,他表示:“人工智能给出的答案并不总是正确的,但尝试使用人工智能推荐的原料开展实验,往往能为我们积累更多的数据。”



坚守基本,主动协作同行

崔在赫代理的一天从检查工作开始。他会先回顾前一天的工作成果,梳理核心内容,并在此基础上制定当天详细工作计划。随后便投入产品研发实验和客户技术支持工作之中。其中,针对客户交付产品的分析需求以及性能优化要求提供技术支持,是他的重要工作内容之一。对他而言,研究室里的实验工作与客户现场的问题解决始终紧密相连。

谈及研究与实务工作中最重要的品质时,他毫不犹豫地提到了“基本”和“协作”。“我认为最重要的是遵守安全守则,并提前做好管理工作,将因环境变化可能产生的各种变量控制在可预见范围内。这些看似基础的工作其实最为关键。”从小与兄弟一同长大的崔在赫代理,养成了时刻关注身边人和事的习惯。面对工作繁忙的同事,他总会主动伸出援手,面对客户需求,他也会尽可能提前预判并做好准备。正是这种开放且积极的协作态度也让他始终保持学习的热情。“我从组长朴永森部长和一直指导我的朴昌贤次长身上学到了很多。良好的团队合作能够产生强大的协同效应。当我们团队共同研发的成果最终获得客户认可并被采用时,我真的感到非常高兴。”

在被问及“最难忘的瞬间”时,崔在赫代理提到了一个特别的经历——在电影院播放的广告中看到了自己参与研发的产品。虽然表面处理剂平时不容易被注意到,但在那一刻,他切实感受到自己研发的产品正在实际产业现场发挥作用。他笑着说道:“当时我可以自豪地对身边的朋友说,‘这就是我参与研发的产品’,那种成就感真的令人难忘。”

今年是崔在赫代理加入NOROO卷钢涂料的第五年,他深刻感受到自己的变化。刚入职时,连公司内部日常交流中用到的术语都觉得很陌生。而如今,他已经能够主动与他人沟通协调,越来越多部门会主动找到他,希望与他开展合作。正深耕于研发、营销与客户对接的业务交叉点,不断积累经验,逐步拓宽自身的业务领域。而为自己设定的目标其实很简单:坚持健康安全的原则,长期投身研究工作,最终成为行业内值得信赖的人。今天的他依然与同事们谈笑风生,携手合作,在坚守基本原则的同时,不断挑战并填补通往完美的最后2%空白。



Steady Dedication, Bright Commitment

2026 LABOR DAY AWARDS

Each year, Labor Day gives us a moment to reflect on the meaning of work and the people who make it possible. NOROO Paint marks the occasion by recognizing NOROO members who have fulfilled their roles with dedication and responsibility. A total of six recipients were selected for this year's Labor Day Awards, including one President's Award recipient and five Labor Union Chairperson's Award recipients. Their work spans production, quality control, and sales, but all six recipients share one defining quality: A steady commitment that has built trust over time.

持之以恒的初心闪耀的诚信精神

2026劳动节表彰

每年如约而至的劳动节是重新思考“劳动者”意义的时刻。NOROO涂料股份有限公司每年在劳动节之际，都会表彰那些以诚实的责任态度恪尽职守的NOROO人。今年的劳动节表彰共有6名员工获得表彰，其中包括1名代表理事表彰获得者、5名工会委员长表彰获得者。他们虽然身处生产现场、质量管理、营业一线等不同的岗位，但却有着共同的闪光点，那就是以持之以恒的坚守赢得信赖，以闪耀的诚信精神践行责任。



29 YEARS AS A GATEKEEPER

NOROO Paint holds the Labor Day Awards every year in accordance with its reward and disciplinary regulations. After the labor union submits award recommendations and written records of achievements to the HR department, the Reward and Disciplinary Committee reviews and approves the recipients prior to final CEO approval. This year, Manager Choi Jong-rel of the Quality Control Team was selected for the President's Award. Manager Jun You-sung of Architectural Technology Team 2, Assistant Manager Lee Chang-ho of Paint Production Team 1, Assistant Manager Lee Jong-jin of the Daejeon Branch, Assistant Manager Jung Jun-young of Direct Sales Team 2, and Associate Yoon Sang-jun of the Chilseo Resin Production Team were selected for the Labor Union Chairperson's Award. The President's Award includes a certificate of commendation and support for an overseas study visit, while the Labor Union Chairperson's Award comes with a certificate of commendation as well as gift vouchers. Manager Choi Jong-rel, Manager Jun You-sung, and Assistant Manager Lee Chang-ho shared their thoughts on the award at Jidamteo, a space at NOROO Paint's Anyang Research Institute. "I wondered whether I really deserved the award." Manager Choi Jong-rel answered with a smile, feeling that there were many others who deserved recognition as well. His expression showed humility and consideration for colleagues who had worked alongside him for many years. Behind his selection was a quality everyone



守门人的29年

NOROO涂料的劳动节表彰依据奖惩规定每年进行。由人事部门从工会接收功绩陈述书后提请表彰，经奖惩委员会审议表决，最终由代表理事批准后实施。今年，代表理事表彰获奖者为质量管理组崔钟烈课长；工会委员长表彰获奖者为建筑技术2组全唯成课长、涂料生产1组李昶昊代理、大田分店李钟震代理、直销2组郑骏荣代理、漆西树脂生产组尹祥准员工。代表理事表彰获得者被授予奖状及海外考察机会，工会委员长表彰获得者被授予表彰奖状及相应商品券。在NOROO涂料智谈园地，我们见到了崔钟烈课长、全唯成课长和李昶昊代理，听他们分享了获奖感言。

“我有点受之有愧。”崔钟烈课长微笑着说道，“我觉得还有很多同事更应该得到这个奖。”从他的表情中，我们看到了对多年共事同事的体谅与谦逊。他能成为获奖者，背后是大家一致认可的“严苛遵守原则”的工作态度。对于29年来一直负责原料验收工作的崔课长来说，“质量”是不容妥协的领域。原料验收工作是守护产品质量的第一道关口，需要掌握数千种原料的特性，并随着新原料的引入不断熟悉新的标准。一旦原料不符合标准，后续所有工序都可能受到影响。因此，崔课长始终以守门人的使命感投入工作。他表示，“最重要的是明确树立标准并严格遵守。”即便工作过程中面临外部意见或压力，他也始终坚持原则。当时间证明当初的判断是正确的时候，便是他最有成就感的时刻。全唯成课长表示，“多亏了这位‘严苛’程度全国闻名的课长，进入NOROO涂料的原料品质堪称一流。”据说如果没有崔课长，原料验收就会延迟，甚至可能导致工厂停摆，其重要性和分量可见一斑。

坚守标准，精准执行

获得工会委员长表彰的全唯成课长，是一位“不仅勤勉诚实，更能准确把握标准”的NOROO人。全唯成课长在建筑技术2组负责防水材料业务，既要承担产品设计与开发工作，也要贴近一线听取并反馈现场意见。防水材料受环境影响较大，现



recognized: strict adherence to principles. For Manager Choi who has handled raw material inspection for 29 years, quality leaves no room for compromise. Raw material inspection is the first gate in protecting product quality. The work requires understanding the properties of thousands of raw materials and learning new standards whenever a new material is introduced. If a raw material fails to meet the standard, every succeeding process can be affected. Manager Choi approaches his work as a gatekeeper with this sense of responsibility. "More than anything, setting clear standards and following them are what matters most," he said. Even when outside opinions or pressure arose during the work process, he held firm to his principles until the end. For Manager Choi, the greatest reward comes when time proves his judgment was right. Manager Jun You-sung also noted that people say how the raw materials entering NOROO Paint are always of the highest quality thanks to Manager Choi, whose strict standards are known nationwide. Without Manager Choi, raw material inspection could slow down enough to disrupt factory operations; thus underscoring the importance and weight of his role.

SETTING AND FOLLOWING THE RIGHT STANDARDS

As a recipient of the Labor Union Chairperson's Award, Manager Jun You-sung is a NOROO member known not only for diligence and dedication but also for setting clear standards. Manager Jun oversees waterproofing materials at Architectural Technology Team 2. He designs and develops products at the research



institute while gathering field feedback and applying it to his work. Waterproofing materials are highly affected by the surrounding environment, often leading to field claims and making response work a challenge. When an issue occurs, Manager Jun must examine each possible cause to determine whether the problem lies in the product, the construction environment, the weather, or another external factor. He sets up different test conditions and repeats trials until the cause becomes clear. The process can be demanding, which makes feedback from the field all the more meaningful. "I

feel especially rewarded when people in the field tell us our products work well and the quality has clearly improved," Manager Jun said. Assistant Manager Lee Chang-ho of Paint Production Team 1 handles mixing and dispersion, the first process on the production floor. For over 17 years, he has gained experience across a wide range of processes including waterborne paint, packaging, and color mixing. Accuracy is what he values most in his work. "With hundreds of raw material codes, even one misread number can lead to large-scale disposal," Assistant Manager Lee stressed. His meticulous approach is often recognized, although such care naturally takes time. On the production floor, however, slowness can be part of accuracy. Rushing can turn a mistake into a major loss. The three employees interviewed have different responsibilities, yet share a strong sense of responsibility in their roles and a desire to grow with the company. They



expressed their commitment to doing their best, hoping the organizational culture will continue to support growth for both the company and employees. The Labor Day Awards served as a time to reflect on past efforts and renew the sense of commitment. NOROO members fill each day with dedication and responsibility, showing the steady strength that keeps the organization moving. As always, their consistent efforts will protect today's NOROO and drive tomorrow's growth.



场投诉频繁, 应对起来并不容易。为了找出问题根源, 他需要逐一验证究竟是产品本身的问题, 还是施工环境或天气等外部因素所致, 并设定多种变量、反复试验, 从而寻求答案。过程虽艰难, 但最终收获的成就感也因此更加珍贵。全唯成课长表示, “当听到现场反馈说我们的产品好用, 比以前质量更好了的时候, 我真的感到非常自豪。”

涂料生产1组李昶昊代理负责生产现场第一道工序——配料和分散工作, 17年来他先后经历了水性涂料生产、包装、调色等多个工序。在工作中, 他最为看重的是“精准”。李代理表示, “在几百种原料代码中, 只要看错一个数字, 就可能造成大量报废事故。”因此他常被人评价为做事细致认真, 但也有人认为他的工作速度较慢。然而在生产现场, “慢”是伴随准确性而来的必然结果。因为仓促行事是让失误演变为巨大损失的捷径。

虽然三位受访者的业务各不相同, 但他们所追求的方向是一致的。那就是对工作的责任感以及希望与公司共同成长的信念。他们表示, 今后将继续努力, 希望形成公司与劳动者共同发展的组织文化。

劳动节表彰是对过去一年辛勤付出的回顾, 也是重新下定决心的时刻。从用诚实与责任感填满每一天的NOROO人身上, 我们看到了推动组织前进的坚实力量。正如他们一直以来所做的那样, 他们持之以恒的实践将守护今天的NOROO并引领未来的成长。



NEWS BRIEFING



Expanding Open Innovation in Industrial Biotechnology to Advance Commercialization of 3-HP Material Applications

NOROO HOLDINGS

EXPANDING OPEN INNOVATION IN INDUSTRIAL BIOTECHNOLOGY TO ADVANCE COMMERCIALIZATION OF 3-HP MATERIAL APPLICATIONS

NOROO Holdings is joining forces with outside experts to build momentum in next-generation biomaterials. The company aims to connect 3-hydroxypropionic acid (3-HP) with its existing businesses while working with startups to discover and validate technologies with strong commercialization potential. As part of the initiative, NOROO Holdings will launch an open innovation program in industrial biotechnology (white biotechnology) with a focus on 3-HP and materials made of the compound. External partners include S&S Lab (a biotechnology-specialized accelerator that operates the shared laboratory IRIS Lab) and MYSC (an investment firm).

The program will bring together startups, universities, and research institutions working on eco-friendly materials, biochemicals, functional coatings, personal care ingredients, and relevant fields. The NOROO Bio R&D Center will work with participating startups, universities, and research institutions to validate product applications using 3-HP materials and expand industrial use.

3-HP is a next-generation biomaterial made from biomass through an eco-friendly fermentation process. It is also a platform chemical that can be converted into various chemical structures and has been named one of the 12 critical materials by the US Department of Energy. With its potential to replace petroleum-based chemicals, 3-HP can be used across a wide range of industries, including medicine, cosmetics, coatings, and packaging. It is therefore considered a crucial material for white biotechnology in the carbon-

neutral era.

Around 100 teams took part in the project, and those selected at each stage of evaluation will advance to the proof of concept stage. Under the collaboration, NOROO Holdings will provide 3-HP materials and research infrastructure while taking part in joint validation. S&S Lab will oversee the first-round evaluation and program management, while MYSC will assist with commercialization through investment matching. Selected companies will gain opportunities for commercialization by working with NOROO Group.

An official from the NOROO Bio Business Development Group said, "The open innovation program is designed to speed up industrial applications of 3-HP through external collaboration. By connecting 3-HP with NOROO Group's paint and materials businesses, we aim to generate tangible results. Collaboration with startups in white biotechnology will support technology commercialization while helping build a sustainable ecosystem and strengthen industrial competitiveness."

NOROO Holdings intends to continue its open innovation programs to secure new 3-HP-applied products. The company will also review ways to apply those products to eco-friendly technologies across the group, including NOROO Paint. Based on its technologies and commercialization experiences, NOROO Holdings plans to target the Japanese market first and use it as a springboard for full-scale entry into the global market.

NOROO控股股份有限公司

推进工业生物领域开放创新，携手生物专业加速器，加快3HP材料应用产品商业化进程

NOROO控股股份有限公司通过与外部专业机构合作，加快新一代生物材料业务的拓展。其战略是强化与现有业务的关联性，同时通过发掘初创企业并进行联合实证，加速技术的商业化进程。为此，公司将以 3-HP (3-羟基丙酸) 及相关应用产品为中心，推进工业生物 (白色生物) 领域的开放创新项目。参与合作的外部机构包括运营共享实验室的IRIS Lab、专注于生物领域的加速器S&S Lab，以及投资机构 MYSC。

本次项目将面向研究环保材料、生物化工、功能性涂层、个人护理原料等的初创企业、大学及研究机构开放申请。NOROO生物融合研究所将与这些机构合作，推进3-HP材料在实际产品应用中的联合实证，并借此扩大其工业应用范围。

3-HP (3-羟基丙酸) 是以生物质为原料，通过环保发酵工艺生产的下一代生物材料，也是能够转化为多种化学结构的“平台化合物”，被美国能源部 (DOE) 选定为“未来12大关键材料”之一。它不仅是可替代现有石油基化学材料的环保物质，还可应用于医疗、化妆品、涂料、包装等多个工业领域，被誉为碳中和时代“工业生物 (白色生物) 事业”的核心材料之一。

本次项目共有约100支团队参与，通过阶段性评估选拔出的团队将进入实证 (PoC) 阶段。在此次合作中，NOROO控股股份有限公司将提供3-HP材料及研究基础设施，并参与联合实证；S&S Lab负责初评及项目运营；MYSC负责

对接投资，助力项目实现商业化。入选企业将通过与NOROO集团的联动，获得商业化机会。

NOROO生物事业推进团人士表示，“本次开放创新旨在通过外部协作，加快3-HP的工业应用进程。我们将与NOROO集团现有的涂料及材料业务相结合，力争取得实质性的商业成果。”他还补充道，“通过与工业生物领域的初创企业合作，不仅能推动技术商业化，还将为构建可持续生态系统及增强产业竞争力做出贡献。”

NOROO控股股份有限公司计划持续通过开放创新项目，不断获取应用3-HP的新型产品，并探讨将其应用于包括NOROO 涂料在内的整个集团公司的环保技术等领域。同时，公司将以所积累的技术和商业化经验为基础，优先开拓日本市场，并以此为契机，正式推进全球市场布局。

3-HP NATIONAL R&D PROJECT SECURED TO ADVANCE COMMERCIALIZATION OF INDUSTRIAL BIOMATERIALS

NOROO Holdings is accelerating its entry into the white biotechnology market through 3-HP development. The company was recently selected to take part in "developing technologies for raw material production and high-value product applications to revitalize the bio-based polymer market," led by the Korea Evaluation Institute of Industrial Technology.

For its role in the project, NOROO Holdings will oversee the demonstration of large-scale 3-HP production using waste biomass—covering the entire process from raw material sourcing to production. The broader project covers the development of bio-derived acrylic acid-based polymer materials, the demonstration of large-scale 3-HP production using waste biomass, and the demonstration of bio-acrylic acid production via a 3-HP catalytic reaction.

The project is also anticipated to create stronger synergy within the group. NOROO Paint, a core affiliate of NOROO Holdings, will take part in the demonstration of bio-acrylic acid production via a 3-HP catalytic reaction. Its role focuses on converting 3-HP into an industrial raw material and assessing the possibility of replacing acrylic acid, long dependent on petrochemical processes, with a bio-based material. In particular, the project will focus on securing a total value chain—from raw material production to final products—through industry-academia-research collaboration involving multiple joint research institutions.

An official from the NOROO Bio Business Development Group said, "Until now, white biotechnology has largely remained at the research stage. This demonstration project marks the start of full-scale development and commercialization, supported by investment in pilot facilities. We will remain committed to expanding our projects for white biotechnology materials in cooperation with the Ministry of Trade, Industry and Energy."



Protecting the Environment through Removal of Invasive Plants along Anyangcheon Stream

承接“3-HP”政府国策课题，加速工业生物材料商业化进程

NOROO控股股份有限公司通过3-HP的研发加快抢占工业生物市场，近日最终被选定为韩国产业技术规划评估院 (KEIT) 主办的“生物高分子市场活性化原料生产及产品高附加值化技术开发”项目的执行机构。在此次项目中，NOROO控股股份有限公司将负责“利用废弃生物质进行3-HP批量生产实证”，统筹从原料获取到生产的全过程。具体内容包括开发生物基丙烯酸高分子材料、利用废弃生物质进行3-HP批量生产实证，以及基于3-HP催化反应的生物基丙烯酸生产实证等。

该项目也有望提升集团内部的协同效应。主力子公司NOROO涂料将承担“基于3-HP催化反应的生物基丙烯酸生产实证”课题，负责将3-HP转化为工业原料的工艺，研究以往完全依赖石化工艺的丙烯酸被生物基材料替代的可能性。尤其值得一提的是，该项目将通过由多家共同研究机构参与的产、学、研合作，集中力量构建从原料生产到最终产品的“全价值链”。

NOROO生物事业推进团人士表示，“如果说此前工业生物 (Industrial Biotech) 领域主要以研究 (Research) 为中心，那么本次实证课题则意味着进入实际中试 (Pilot) 设备投资所伴随的正式开发及商业化 (Development) 阶段。”他还表示，“今后将继续与产业通商资源部合作，努力推动工业生物材料相关开发项目持续扩大。”

NOROO PAINT & COATINGS

PROTECTING THE ENVIRONMENT THROUGH REMOVAL OF INVASIVE PLANTS ALONG ANYANGCHEON STREAM

NOROO Paint & Coatings partnered with the Anyang city government to carry out the "Citizen-Participatory Invasive Plant Removal Activity 2026" to help protect the stream ecosystem near its plant. Held along Anyangcheon Stream near the Anyang plant, the initiative was designed to create a healthier stream environment and preserve the local ecosystem. It carried added significance as part of the NOROO Paint & Coatings' efforts to protect the local environment as

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a homegrown business that has developed together with the community.

NOROO Paint & Coatings has operated in Anyang for many years, placing coexistence with the local community and environmental conservation among its core management values. The company has also carried out a wide range of social contribution activities. The most recent activity was an ESG initiative that brought local residents together to improve the neighborhood surrounding the plant.

Participants included employees from NOROO Paint & Coatings and affiliates, including NRP, NCC, and NRL, as well as officials from the Anyang city government. The objective was to prevent non-native plants from spreading and protect the stream's native ecosystem. An instructor was present to explain the characteristics of invasive plants and their proper removal. Afterward, participants removed young invasive plants by their roots. The cleanup was conducted along the section between Chunghun 2-gyo Bridge and Chunghundaegyo Bridge.

An official from NOROO Paint & Coatings said, "As NOROO has grown with Anyang as its base, protecting the surroundings of our plant and taking part in activities with the local community are crucial. We will consistently pursue our social contribution initiatives to protect the environment while establishing links with the local community through ESG management."

NOROO涂料股份有限公司

开展安养川生态干扰植物清除活动, 带头保护社区环境

为保护工厂附近河流生态系统, NOROO 涂料与安养市合作开展了“2026年市民参与型生态干扰植物清除活动”。这是由安养市主办的合作项目, 旨在营造健康的河流环境并保护地区生态系统。本次活动特别选在NOROO涂料安养工厂相邻的安养川一带进行, 体现了与地区共同成长的本地企业为保护社区环境做出了贡献, 意义更加深远。

NOROO涂料长期扎根安养市开展业务, 将社区共赢与环境保护作为核心经营价值, 持续开展多种社会贡献活动。本次活动也是一项直接改善工厂周边生活环境, 让市民共同参与的ESG实践项目。

当天, NOROO涂料及其关联公司(NRP, NCC, NRL)员工以及安养市相关人士等共同参与了活动。参与者在忠勋二桥至忠勋大桥区间, 对生态干扰植物的幼苗进行了连根清除。本次活动旨在提前阻断外来植物扩散, 保护河流原有生态系统。参与者在专家指导下了解干扰植物的特性及清除方法后, 进行了现场清理工作。

NOROO涂料相关人士表示, “我们NOROO是在安养成长起来的企业, 因此保护工厂周边环境, 与社区共同开展活动非常重要。NOROO涂料今后也将继续推进地区密切型环境保护活动和社会贡献项目, 以ESG经营为基础, 加强与社区的共赢合作。”



Website Overhaul for Peak Apartment Repainting Season Improving Customer Decision-Making and Consultation Convenience

WEBSITE OVERHAUL FOR PEAK APARTMENT REPAINTING SEASON IMPROVING CUSTOMER DECISION-MAKING AND CONSULTATION CONVENIENCE

With apartment repainting season in full swing, NOROO Paint & Coatings has fully renewed the repainting page on its official website to improve customer experience. The overhaul goes beyond the old information-only structure, making it easier for customers to understand the repainting process and guiding them to consultation. The repainting process has been reorganized into four stages: review, comparison, verification, and decision. Information and services for each stage are now more clearly connected.

NOROO Paint & Coatings also recently launched NOROO Smart Color, an AI-based service that generates repainting design proposals. The service allows customers to review color proposals for apartment exteriors in about five minutes, enabling faster decision-making during the initial review stage. During the initial review, customers can compare AI-generated design proposals. In the final stage, NOROO Smart View provides 3D simulations that allow customers to preview the outcome of the selected design. An AI color director offers expert insights, assisting customers in making decisions with greater confidence.

The renewed website also provides contact details and email addresses for AI color directors nationwide so that customers may submit inquiries more conveniently. Furthermore, improvements have been made in the overall user flow—from content understanding to consultation request.

An official from NOROO Paint & Coatings said, “The over-

haul goes beyond simply providing information. It was designed to make it easier for customers to understand the repainting process and help them make more reasonable decisions. We will remain dedicated to updating our digital services for enhanced customer convenience.” The renewed page is available on the NOROO Paint & Coatings website (www.noroo-paint.com) under “Customer Support” and “Apartment Repainting.”

迎接住宅翻新涂装旺季, 全面改版官网提升消费者决策及咨询便利性

NOROO涂料为迎接住宅翻新涂装旺季, 改善相关客户体验, 对官网的翻新涂装页面进行了全面改版。此次改版摆脱了以往单纯提供信息的模式, 重点在于让消费者更轻松地了解翻新涂装过程, 并自然衔接至咨询服务。特别是将翻新涂装过程重新调整为“评估、比较、验证、决定”四个阶段, 并将契合各阶段的信息与服务进行了系统化串联。

与此同时, NOROO涂料最近新推出了基于AI的翻新涂装方案生成服务“Noroo Smart Color”。该服务可在约5分钟内确认住宅楼外观配色方案, 支持在初期评估阶段进行快速决策。在翻新涂装初期评估阶段, 可通过“Noroo Smart Color”确认并比较基于AI的方案, 在最终验证阶段, 可通过利用“Noroo Smart View”的3D模拟预先确认实际应用效果。同时, 通过AI色彩顾问加强专家支持功能, 构建了支持客户决策的结构。

此外, 改版后的官网还提供全国范围内AI色彩顾问的联系方式及邮箱信息, 提高了客户咨询的便捷性。与此同时, 还对从内容理解到申请咨询的整个流程进行了优化, 强化了用户的浏览动线体验。

NOROO涂料相关人士表示, “此次改版不仅是为了提供信息, 更是为了帮助客户更轻松地理解翻新涂装过程, 做出合理决策。今后将继续加强数字化服务, 提高客户便利性。”改版后的页面可在NOROO涂料官网(www.noroo-paint.com)“客户支持”下的“住宅翻新涂装”版块查看。

NOROO AUTOMOTIVE COATINGS

KIM JONG-WOO, PRESIDENT OF NOROO AUTOMOTIVE COATINGS, RECEIVED THE TIN TOWER ORDER OF INDUSTRIAL SERVICE MERIT

Kim Jong-woo, President of NOROO Automotive Coatings, received the Tin Tower Order of Industrial Service Merit at the 53rd Commerce & Industry Day ceremony held on Mar. 31. President Kim's achievements centered on management innovation and high value-added coating technologies for future mobility, contributing to boosting the automotive materials industry. His work on national R&D projects, such as the development of battery fire-extinguishing fluids, helped secure next-generation materials technologies. His leadership in materials innovation, including the commercialization of high value-added products based on low-temperature curing coating patents, also served as a major reason for the award.

Commerce & Industry Day is one of Korea's biggest business



Kim Jong-woo, President of NOROO Automotive Coatings, received the Tin Tower Order of Industrial Service Merit

events, hosted and organized by the Ministry of Trade, Industry and Resources and the Korea Chamber of Commerce and Industry (KCCI). Since 1974, the ceremony has built a long-standing tradition and reputation. Each year, the event reflects the economic climate and the needs of the time. This year's slogan was “A History of Constant Challenge, a Great Leap Forward Together.” The ceremony honored business leaders who have overcome challenging domestic and global economic conditions through passion and innovation, while reaffirming the shared commitment of the government and business community to Korea's next economic leap.

At the ceremony, 264 business leaders and workers who contributed to the country's economic development received honors including Orders of Industrial Service Merit, Industrial Service Medals, and Presidential Citations. This year, special recognition went to entrepreneurs who contributed to the localization of materials, parts, and equipment while also expanding global supply chains and advancing AI-based manufacturing innovation. Honored businesses were acknowledged for lowering reliance on foreign suppliers by localizing core materials and parts, as well as for actively expanding globally and innovating in manufacturing to boost the country's economic competitiveness. NOROO Automotive Coatings was highly recognized for raising the standing of Korea's automotive materials industry through ongoing technological innovation.

Prime Minister Kim Min-seok attended the ceremony and offered encouragement to business leaders. Kang Myung-soo from KCCI said, “The ceremony highlighted the achievements of business leaders who have contributed to the national economy, shared a vision for the future, and raised a sense of pride. Building on the innovation and spirit of chal-

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allenge shown by these leaders, the government and companies will work together to make a new economic breakthrough for Korea."

NOROO汽车涂料股份有限公司

NOROO汽车涂料股份有限公司代表理事金宗佑, 石塔产业勋章授勋

NOROO汽车涂料股份有限公司代表理事金宗佑在3月31日举行的第53届商工日纪念仪式上荣获了石塔产业勋章。金宗佑代表通过经营创新和未来出行用高附加值涂料技术研发,为推动汽车材料产业的发展做出了贡献,因此获得了石塔产业勋章。尤其值得一提的是,他通过执行开发电池灭火液等国策课题,带头确保了下一代材料技术,并以低温固化涂料专利为基础,推动高附加值产品商业化,引领了材料创新,这些都是此次获奖的主要背景。

商工日纪念仪式是由韩国产业通商资源部主办,大韩商工会议所承办的经济界代表性活动,自1974年起延续至今,具有传统与权威。每年活动在反映当年经济形势与时代需求的标语下举行。今年的标语为“不懈挑战的历史,携手开启的伟大飞跃”,旨在鼓舞在艰难的内外经济环境中以热情和创新克服危机的工商业者的挑战精神,并分享通过民官合作实现经济再次腾飞的决心。此次纪念仪式上,共有264名为国家经济发展做出贡献的工商业者和劳动者获得了产业勋章、产业奖章、总统表彰等荣誉。尤其值得一提的是,今年在材料、零部件、装备国产化、全球供应链扩展、基于AI的制造创新方面取得成就的企业家们备受关注。获奖企业因通过核心材料、零部件国产化降低对外依赖度,并通过积极拓展全球市场以及推动制造创新为提高国家产业竞争力做出贡献而获得认可。NOROO汽车涂料股份有限公司也因通过持续的技术创新增强韩国汽车材料产业竞争力而获得高度评价。

出席当天活动的国务总理金民锡向全韩国工商业者表示了鼓励。大韩商工会议所会长姜明秀表示,“本次纪念仪式旨在回顾为国家经济做出贡献的工商业者的成就,分享未来愿景并提升自豪感。基于工商业者的创新与挑战精神,政府与企业将携手合作,实现韩国经济的新飞跃。”

THE KIBAN

WAFFLE FOOD TRUCK EVENT BRINGS A SWEET START TO SUMMER

On May 14, THE KIBAN organized a food truck event to encourage employees ahead of the full summer heat, creating a cheerful moment with sweet waffles.

Summer at the Anseong R&D Complex can feel especially hot due to frequent greenhouse work, which also increases physical fatigue. The complex is located in a suburban area surrounded by fields, making cafes that sell coffee or a variety of desserts difficult to access. To address this issue, THE KIBAN has held food truck events from time to time. For this event, waffles with cool whipped cream and various toppings were served. Employees were free to choose according to their own tastes.

Upon the arrival of the food truck, employees stopped by during short breaks, took photos with their waffles, and chat-



Waffle Food Truck Event Brings a Sweet Start to Summer

ted with one another, enjoying sweet moments together. One employee said, "After spending time in the lab wrestling with experimental data, stepping outside for a snack really helped me relieve stress. I could feel how much the company cares about us."

One of the staff members for the event said, "Events like this give employees new energy and help them return to work with greater focus. They also bring people together, creating opportunities for communication and building a stronger sense of pride in the company." As such, THE KIBAN plans to keep developing programs that take into account employee feedback and contribute to creating a better workplace.

THE KIBAN

举办华夫饼美食车活动,为夏季注入满满活力

为应对即将到来的酷暑天气,THE KIBAN于5月14日准备了美食车活动,用香甜的华夫饼为安城研究所员工提振士气,创造欢乐时光。

安城研究所由于大棚作业较多,夏季更为炎热,体力消耗也更大。安城研究所位于被农田环绕的郊区,前往销售咖啡或各种甜点的咖啡厅也非常不便。为此,THE KIBAN经常举办美食车活动,此次选择了搭配清冷却鲜奶油和可自由添加多种配料的华夫饼作为菜单,让员工可以根据个人喜好进行选择。

听到美食车到来的消息,员工们纷纷抽空前来,手拿华夫饼拍照留念,相互交谈,享受甜蜜时光。一位员工表示,“在实验室里埋头与实验数据斗争,出来吃点东西,压力一下子就缓解了。能感受到公司对我们的关怀,真的很开心。”负责准备华夫饼美食车的工作人员表示,“这类活动能带给员工活力,让他们重新更专注地投入工作;同时大家聚在一起,也创造了沟通交流的机会,有助于增强归属感和自豪感。”他还表示,今后将继续倾听员工的声音,推出更多有助于员工成长和幸福的活动项目。



Assistant Manager Choi Jae-hyeok of Research Team 1 at NOROO Coil Coatings says, "Research is about finding the final 2%." In other words, staying with every detail and doing his best until the target is reached. We support every NOROO member who continues each day with a commitment to the basics, collaboration, and steady effort toward 100%.

NOROO卷钢涂料有限公司研究1组崔在赫代理表示,“研究就是寻找那最后的2%。”这句话意味着,为了100%实现目标,必须不断思考并竭尽全力。为今天也坚守本职、团结协作,每天都向着100%的目标努力奋斗的所有NOROO人加油鼓劲。



At the Kick-Off Workshop for NOROO Group's First Change Agent (CA) Group, the first CA members gathered to exchange ideas and take part in various team activities. The first CA members took on their role as a communication bridge and drivers of change for NOROO's growth. We look forward to seeing how the first CA members gather feedback from the field and help create a better tomorrow.

在NOROO集团Change Agent 1期Kick-Off研讨会上,CA 1期成员们齐聚一堂,畅所欲言并交流意见,开展了丰富多彩的小组活动。作为NOROO发展进程中沟通的桥梁和变革的践行者,CA 1期成员展现出的风貌令人倍感踏实与信赖。期待汇聚一线声音,共创更美好明天的CA 1期成员们能大放异彩。

NOROO

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