

Instalimb, Inc.

Digital Transformation for Prosthetic Legs with 3D Printing (Philippines)

Objective of the project

The ultimate goal of this project is to improve the prosthetic leg penetration rate in the Philippines, currently at approximately 10%, by leveraging Instalimb's digital transformation (DX) solutions to reduce costs, thereby ensuring that everyone in need can obtain one. To achieve this, the project introduced Instalimb's digital prosthetic manufacturing technology, centered on AI-assisted CAD design and 3D printing, into national hospitals and other facilities in the Philippines. By digitalizing the traditionally labor-intensive and high-cost manufacturing process, this project aimed to verify the feasibility of a model for developing, manufacturing, and delivering prosthetic legs, based on the premise that patients can obtain them at virtually no cost through programs such as the Philippine National Health Insurance (PhilHealth).

Cooperation with local companies/governments

Instalimb designated POC as the primary hub for technology transfer and demonstration, establishing a digital prosthetic manufacturing system within the hospital. Awareness-building among physicians and hospital outreach were continuously carried out through Docquity. Instalimb's affiliate company, Instalimb Solutions Philippines, Inc., supported overall operations in the Philippines, and the policy discussions with the DOH and PhilHealth secured multiple public funding routes for prosthetic leg delivery.



Targeted economic/social issues

Driven by rising diabetes rates and traffic accidents, it is estimated that approximately 760,000 people in the Philippines live with lower-limb amputations. However, annual prosthetic leg sales total only around 7,000 units, leaving the penetration rate at approximately 10%. The vast majority of patients who have lost a leg have been unable to walk, work, or reintegrate into society, and this severe situation has remained unaddressed for many years. The average market price of a prosthetic leg stands at approximately 250,000 JPY, far exceeding the PhilHealth reimbursement of around 40,000 JPY. As patients cannot cover the remaining amount of approximately 210,000 JPY out of pocket, many are forced to give up on obtaining a prosthetic leg, even though it could significantly improve their quality of life and support independent living. Underlying this situation are deep structural challenges. Prosthetic manufacturing relies heavily on artisan skills, requires substantial capital investment, and is hampered by a chronic shortage of certified prosthetists. Only approximately 80 certified prosthetists are actively practicing nationwide, representing roughly one-thirteenth of the estimated need. Furthermore, approximately 70% of these prosthetists are concentrated in the capital region, making prosthetic leg provision extremely difficult in rural and remote regions. These three structural barriers of cost, workforce, and institutional design are deeply intertwined, forming the fundamental bottleneck that prevents improvement in the penetration of prosthetic legs across the Philippines.

Approx. 760K

Estimated number of lower-limb amputees

Approx. 7,000

Annual prosthetic leg sales volume

Approx. 10%

Prosthetic leg penetration rate

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Demonstration period

September 2023 – January 2026

Details of demonstration

1. Ultra-Low-Cost Prosthetic Development: Developed new filament, P.O. Blend SUS and a specialized 3D printer. ISO compliant, cost reduced to 2,986 PHP, within PhilHealth limits.
2. Tech Transfer to POC: Trained 5 technicians with OJT on 28 cases. Built an independent manufacturing system, reducing production time from 15 to 6 hours.
3. Docquity Outreach: Acquired a total of 303 physician leads via webinars and established a self-sustaining monthly PDCA framework.
4. Manufacturing and Sales: Secured the 2026 DOH budget (50 sets/year) in addition to PhilHealth coverage, establishing a publicly funded sales system.
5. Expansion to Additional Hospitals: Compiled implementation data from 196 hospitals into a database to enable efficient rollout.
6. POA Conference: Presented at a conference of the Philippine Orthopaedic Association (POA), gaining clear expressions of interest from 39 experts.
7. Operational Rollout: Launched at multiple hospitals. Delivered 390 prosthetic legs through funding from the Department of Social Welfare and Development (DSWD). Registered service providers in approx. 60% of regions.

Project outcome/ future plans

This project validated the feasibility of a prosthetic delivery model from three dimensions: technology, operations, and policy. At POC, 5 technicians achieved full operational independence without on-site support, reducing manual labor time by approx. 60% (from ~15 to ~6 hrs), demonstrating a labor-saving model. Free prosthetic delivery for 390 patients via DSWD funding, with service provider registration completed in 10 out of 17 regions (~60%). A database of 196 PhilHealth-accredited hospitals was built, forming a pipeline for nationwide rollout. In January 2026, an official meeting with the DOH Secretary resulted in a commitment to achieve "100% prosthetic leg penetration through DX in manufacturing," marking the project's transition from demonstration to nationwide expansion.

Going forward, the project will work with the DOH to secure explicit PhilHealth reimbursement coverage for digital prosthetic manufacturing, while advancing standardization and national standards development with DOST (Department of Science and Technology) and BPS (Bureau of Philippine Standards). To address the chronic prosthetist shortage, a new DX-based training system will be established in partnership with educational institutions such as UERM (University of the East Ramon Magsaysay). A DOH-led public-private partnership will drive implementation of large-scale prosthetic manufacturing facilities for nationwide coverage. Project findings, including demonstration data, policy analysis, and stakeholder discussions, will be systematically compiled to support ongoing policy documentation and advocacy with DOH and PhilHealth. The social implementation model proven in the Philippines will be expanded to other ASEAN countries facing similar challenges, with the overarching vision of realizing a world where everyone in need can access high-quality prosthetic legs.