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Expert Reviewer's Report (#:2026-03)

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I am delighted to have the opportunity to contribute as a reviewer for the IEEE Milestone Program. Below, I provide the results of the review for Milestone-Proposal: "Electric Bidet Seat, 1967".

1. Is suggested wording of the Plaque Citation accurate?

Yes, I agree that the following points included on the plaque are accurate:

- Ina Seito introduced the first electric bidet toilet "Sanitarina 61" in Japan in 1967.
- The introduction of electronic control technology greatly improved usability, safety and comfort of the electric bidet toilet by Matsushita Electric in 1979 and TOTO in 1980.
- The Japanese innovations of the electric bidet toilet reshaped hygiene practices, enhanced quality of life, and exerted lasting global influence on modern sanitation.

2. Is evidence presented in the proposal of sufficient substance and accuracy to support the Plaque Citation?

Yes. The following points are adequately demonstrated in the proposal and accompanying materials:

- The historical and significant developments of electric and electronic bidet toilets in Japan are clearly described, including how they have been adjusted to Japanese body shape and Japanese special hygiene circumstances.
- The innovation of electric and electronic bidet toilets in Japan changed the bidet toilets from medical, nursing and/or luxury products into mass-market household appliances and improved hygiene circumstances not only in Japan but also in global countries.

3. Does proposed milestone represent a significant technical achievement?

Yes. The proposal represents the following significant technical achievements:

- Ina Seito firstly installed the advanced electric warming-water bidet toilet system into a compact bidet toilet seat adjusted for Japanese body style based on original anthropometric measurements in 1967.
- Matsushita Electric Industrial and TOTO introduced the electronic control technology and realized instant water heating, precise temperature and pressure adjustment,

automated nozzle cleaning, and multiple safety sensors.

4. Were there similar or competing achievements? If so, have the proposers adequately described these and their relationship to the achievement being proposed?

Yes. The proposers adequately described the imported bidet toilet as a similar or competing device, which had the technical, cultural, geographic, infrastructural, and organizational disadvantages in Japan. The Japanese innovation overcame these obstacles and dramatically improved usability and accessibility, transforming the device from a high-cost luxury product for medical and nursing use into an affordable mass-market household appliance for ordinary family use.

5. Have proposers shown a clear benefit to humanity?

Yes. In 1960's almost all Japanese toilets were squat ones without bidet. After starting the supply of the innovated Western-style sitting electric and electronic bidet toilet, the sanitation and hygiene circumstances in Japan have been greatly improved and their household penetration rate exceeded 80% by the mid-2010s, making Japan the global leader in bidet-style toilet adoption. The success of the Japanese models inspired new international standards for bathroom design, smart-home integration, and hygienic technologies.

6. Are the supporting reference texts credible? Are there reference texts which ought to have been included in support of the proposal, but which are missing?

Yes. The references providing the related technological and historical information are appropriate, sufficient and credible to support the Milestone.

Conclusion

As stated above, the achievement of the electric and electronic bidet toilet has had a significant impact on the human daily life and sanitation circumstance not only in Japan but also in other countries. I strongly recommend registering this proposal as an IEEE Milestone.

Sincerely yours,



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