

## 1 Article : Osaka Gas Subsidiary Develops a Long-Lasting Lithium-Ion Battery That Could Revolutionize the Lifespan of EVs

Directions: Read the following article aloud.

On February 26, Kyoto-based Osaka Gas subsidiary KRI, Inc. [announced](#) the successful development of a longer-lasting lithium-ion battery for electric vehicles (EVs). The new battery has a lifespan over five times that of currently-used batteries. KRI is calling it the world's first "ultra-long-life storage battery."

The company plans to supply prototypes in 2025 to customer companies for testing the battery's performance. The ultimate aim is to extend the cumulative mileage of EVs equipped with 30 kWh batteries from the current 160,000 kilometers to over 800,000 kilometers.

KRI conducts research and development for batteries and energy-saving systems for manufacturers. With the [proliferation](#) of EVs, reducing the negative environmental impacts of battery disposal is a growing concern.

In this context, the company has focused its efforts on extending the lifespan of storage batteries.

Battery [degradation](#) occurs due to the uneven flow of lithium ions within. An adhesive called a "binder" is used to hold together the powder materials of the positive and negative electrodes. This binder is thought to hinder the flow of ions.

KRI opted to rethink the materials and electrode structure of the storage battery. In so doing, the company successfully developed a technology that maintains battery function without using existing binders. KRI says that this new technology can slow down the rate of [degradation](#).

In 2024, KRI will proceed with internal testing of the technology. From 2025, the company will begin to supply prototypes for electric motorcycles to customers. According to the company, deals are [underway](#) with six domestic automobile and storage battery manufacturers.

The development has involved collaboration with approximately ten battery-related companies, including material manufacturers. Going forward, KRI aims to provide the technology to manufacturers for [commercialization](#).

## 2 Key phrases and vocabulary

Directions: First repeat after your tutor and then read aloud by yourself.

**1. announce** 発表する、知らせる、公表する、告知する

The president will **announce** the new policy tomorrow.

**2. proliferation** 普及、拡散、まん延、激増、急増

The **proliferation** of smartphones has changed the way we communicate.

**3. degradation** 劣化、下落、墮落、退化、分解、変質

The **degradation** of the ozone layer is caused by certain chemicals.

**4. underway** 進行中である、進み始めて

The investigation is **underway** and we should have results soon.

**5. commercialization** 商用化、商品化、商業化

The **commercialization** of renewable energy sources is an important step towards sustainability.

## 3 Questions

Directions: Read the questions aloud and answer them.

1. What did KRI, Inc. announce on February 26th?
2. Why is the company focusing its efforts on extending the lifespan of storage batteries?
3. What are the company's plans for the year 2025?
4. Have you ever used an electric vehicle (EV)? If so, what was your experience like?
5. If you were a part of a company like KRI, Inc., what kind of innovative technology would you want to work on and why?

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## 日本語関連記事： 蓄電池の寿命・EV走行距離を5倍以上に 大阪ガス子会社が開発 7年度から電動バイク用試作品

大阪ガス子会社のKRI（京都市）は26日、電気自動車（EV）などに搭載するリチウムイオン電池で現在の5倍以上の寿命を実現する「超長寿命蓄電池」の開発に、世界で初めてめどをつけたと発表した。令和7年度に顧客企業が性能を評価するための試作品を供給し、最終的には容量30キロワット時の電池を搭載するEVの延べ走行距離を、現在の16万キロから80万キロ以上に延ばすことを目指す。

KRIは電池や省エネシステムなどの研究開発をメーカーなどから受託。EVが普及すれば、電池の容量よりも電池が廃棄されることによる環境負荷の低減が重視されるとみて、蓄電池の超長寿命化を目指している。

蓄電池は内部でリチウムイオンが均一に流れないことで劣化が進む。電池の正極・負極の粉末状の材料を固めるために使われる「バインダー」と呼ばれる接着剤がイオンの流れを妨げることが原因とされる。

同社はそこで材料や電極構造を見直し、既存のバインダーを使わなくてすむ技術を開発して電池の機能を維持することに成功。劣化速度を遅くすることができるという。

6年度は社内で実証を進め7年度から顧客向けに電動バイクに搭載する容量の試作品を供給。自動車や蓄電池メーカーなど国内の6社から引き合いがある。開発は材料メーカーなど10社程度の電池関連企業と連携して進め、将来は技術をメーカーに提供し実用化する。