

TORONTO, Feb. 23, 2017 /CNW/ - U3O8 Corp. (TSX: UWE), (OTCQB: UWEFF) ("[U3O8 Corp.](#)" or the "Company") announces that it has become an associate member of Vanitec Limited ("Vanitec"). Vanitec brings together research organizations and manufacturers of products that contain vanadium, with companies involved in the mining and processing of the metal. The use of vanadium in batteries is growing exponentially, not only for industrial-scale Vanadium Redox Flow Batteries ("VRB"), but also for lithium ion batteries. [U3O8 Corp.](#) also has phosphate and nickel resources &#8211; commodities that are in demand by the battery industry.

"One of the greatest challenges and opportunities related with renewable energy from solar or wind is its inherent supply variability that needs to be regulated or smoothed in order to be a useful source of electricity," said Dr Richard Spencer, President and CEO of [U3O8 Corp.](#) "Batteries perform this function, acting like shock-absorbers, storing energy when an excess is produced, and delivering electricity when demand rises. Lithium-ion batteries are ideal for high power output for a few hours, but when power is needed for longer periods, other technologies, such as flow batteries, provide a better alternative. Vanadium Redox Flow Batteries are a superior alternative when power is needed for more than four hours &#8211; and these batteries can easily and cost-effectively be scaled up for industrial applications. With its vanadium resources of 63 million pounds indicated and 118 million pounds inferred, [U3O8 Corp.](#) represents a potential supplier to the battery industry. Vanitec provides a forum in which we may forge closer ties with battery manufacturers as well as research facilities that are working on ways of making the batteries more efficient and cost-effective. This is an exciting time since, after years of weakening markets, the vanadium price has rebounded sharply in response to increased demand."

[U3O8 Corp.](#)'s Vanadium Resources

[U3O8 Corp.](#) has a significant vanadium resource of 63 million pounds indicated and 118 million pounds inferred in its Berlin and Laguna Salada deposits. Vanadium would potentially be produced as a by-product in both deposits, constituting approximately 14% of revenue from the Laguna Salada Deposit<sup>1</sup> and approximately 9% from Berlin<sup>2</sup>. At Laguna Salada, the removal of pebbles by screening results in the uranium and vanadium being concentrated into the fine-grained component of the mineralized gravel. Test work has shown that beneficiation by screening results in vanadium grades increasing over four times in the fine-grained material compared with the gravel's in situ grade<sup>1</sup>.

Table 1. Summary of [U3O8 Corp.](#)'s NI 43-101 vanadium resources (source: Preliminary Economic Assessments on the Berlin and Laguna Salada deposits<sup>3,4</sup>).

Vanadium Resources					
Deposit	NI 43-101 Resource Classification	Tonnes (million)	Grade V <sub>2</sub> O <sub>5</sub>	Beneficiated Grade	Contained V <sub>2</sub> O <sub>5</sub> (Mlb)
Berlin, Colombia	Indicated	0.6	0.4%	-	6.0
	Inferred	8.1	0.5%	-	91.0
Laguna Salada, Argentina	Indicated	47.3	0.06%	0.24%	57.1
	Inferred	20.8	0.06%	0.24%	26.9

Vanadium in Batteries

Vanadium is used in flow batteries as well as some lithium ion types.

Flow Batteries:

Vanadium Redox Flow Batteries ("VRBs") provide utility- or industrial&#8211; scale electrical storage capacity. The battery consists essentially of two tanks of vanadium electrolyte separated by a membrane. Its capacity to store energy can easily be scaled by increasing the size of the tanks. Vanadium represents 35-40% of the cost of VRBs.

What really sets these batteries apart is that they can be charged and discharged over and over again without degradation or significant loss of capacity. Large VRBs with a megawatt capacity have been through over 200,000 charge-discharge cycles, equivalent to over 250 years of operation assuming one charge-discharge cycle per day, with no significant degradation of the electrolyte. The operating life of VRBs is considered to be around 20 years because of gradual degradation of the membrane; the actual vanadium electrolyte does not degrade and can be recycled into a new battery. In contrast, most long-lived lithium ion

batteries last up to 10,000 charge-discharge cycles &#8211; and have a maximum life of about seven years.

As a result of the charged ions being in a liquid, VRBs charge in a very short time, and conversely, the stored energy can be released almost instantaneously when required. VRBs also have excellent charge retention; they can be left for up to a year and still retain 98% of their charge. New generation VRBs operate efficiently over a wide temperature range of -40°C to +50°C. VRBs are also non-flammable.

The energy capacity of current VRB models is relatively low (Figure 1). This means that for a given amount of energy storage, a VRB will be significantly larger than a lithium ion battery. Ongoing development is focused on increasing the energy capacity of VRBs and the most recent work shows that the addition of phosphate to the electrolyte doubles its energy capacity.

The up-front cost of a VRB is currently more than double that of a lithium ion battery system of similar energy storage capacity. This is counterbalanced by two things: longer battery life (20 years for a VRB versus 7 years for a lithium ion battery), and the fact that the VRB electrolyte can be reused indefinitely in new batteries.

#### Lithium Vanadium Phosphate Batteries:

Lithium vanadium phosphate ("LVP") batteries are attracting attention because of their higher energy capacity (their capacity to store a large amount of energy for their weight). LVPs have an energy capacity almost double that of other mainstream lithium ion batteries (490Wh/kg versus 200Wh/kg for lithium cobalt oxide ("LCO") and 250Wh/kg for lithium nickel cobalt aluminium oxide ("NCA") batteries &#8211; Figure 1). LVPs also have a slightly higher voltage (3.8V) in comparison to the 3.6V of the LCO and NCA batteries, which allows for faster acceleration in electric vehicles. The greater thermal and electrochemical stability of phosphate also makes the batteries safer than many other types of lithium ion battery.

Japan's GS Yuasa Corp., which has joint ventures with Mitsubishi and Honda, is manufacturing LVP batteries, as is Valence Technology Inc. in the USA. BYD, a large Chinese battery manufacturer, is currently producing a lithium iron phosphate ("LFP") battery for the electric bus market that it's concentrating on, but is reported to be evaluating the LVP battery. LVP is also the battery of choice for Subaru's G4e electric car.

The growing attractiveness of phosphate in batteries is extremely interesting to [U3O8 Corp.](#) because of the phosphate resource in its Berlin Deposit in Colombia (Table 2). Originally the Company had considered the phosphate in terms of the agricultural fertilizer market only, but the emergence of phosphate as a key component of batteries is driving the Company to focus more on the battery market, especially since the Berlin Deposit also contains a resource of nickel, another commodity used in some lithium ion batteries.

Table 2. [U3O8 Corp.](#)'s NI 43-101 phosphate and nickel resource in the Berlin Deposit<sup>4</sup>.

Other Battery Commodity Resources, Berlin Deposit					
NI 43-101 Resource Classification	Tonnes (million)	Phosphate		Nickel	
		Grade P <sub>2</sub> O <sub>5</sub>	Contained P <sub>2</sub> O <sub>5</sub> (tonnes)	Grade Nickel	Contained Nickel (Mlbs)
Indicated	0.6	8.4%	50,000	0.2%	3.1
Inferred	8.1	9.4%	800,000	0.2%	42.1

#### Vanadium Market & Outlook

The vanadium market is predicted to slip into deficit later this year, with demand outstripping supply for the foreseeable future (Figure 2). Prices have reacted by rising sharply after almost a decade of decline (Figure 3).

Over 90% of current vanadium demand is from the steel industry, and is growing at a steady rate of 3%-4% per year. Demand is driven by vanadium-steel having one of the highest strength to weight ratios of any steel alloy. Adding only 2 pounds of vanadium to a tonne of steel doubles its strength, and rebar made from vanadium steel alloy is a key component to improving the resistance of buildings to earthquakes.

Demand for vanadium from the battery industry is starting to grow exponentially; batteries are expected to make up 25% of

vanadium demand in 2020 from 6% in 2016 (Figure 2).

## Technical Information

Dr. Richard Spencer, P.Geo., C.Geol., President and CEO of [U3O8 Corp.](#) and a Qualified Person as defined by National Instrument 43-101, has approved the technical information in this news release relating to the Laguna Salada Deposit and the related PEA.

## About U3O8 Corp.

[U3O8 Corp.](#) is focused on exploration and development of deposits of uranium and associated commodities in South America. Potential by-products from uranium production include commodities used in the energy storage industry<sup>1</sup>; in the manufacture of batteries - such as nickel, vanadium and phosphate. The Company's mineral resources estimates were made in accordance with National Instrument 43-101, and are contained in three deposits:

- Laguna Salada Deposit, Argentina<sup>2</sup>; a PEA shows this near surface, free-digging uranium - vanadium deposit has low production-cost potential;
- Berlin Deposit, Colombia<sup>3</sup>; a PEA shows that Berlin also has low-cost uranium production potential due to revenue that would be generated from by-products of phosphate, vanadium, nickel, rare earths (yttrium and neodymium) and other metals that occur within the deposit; and
- Kurupung Deposit, Guyana<sup>4</sup>; a uranium resource has been estimated in four veins within a uranium-zirconium vein system. Resources have been estimated on four veins, while consistent mineralization of the same type has been intersected in scout drilling of an additional six veins, while yet other veins require first-time exploration drilling.

Information on [U3O8 Corp.](#), its resources and technical reports are available at [www.u3o8corp.com](http://www.u3o8corp.com) and on SEDAR at [www.sedar.com](http://www.sedar.com). Follow [U3O8 Corp.](#) on Facebook: [www.facebook.com/u3o8corp](http://www.facebook.com/u3o8corp), Twitter: [www.twitter.com/u3o8corp](http://www.twitter.com/u3o8corp) and Youtube: [www.youtube.com/u3o8corp](http://www.youtube.com/u3o8corp).

## Forward-Looking Statements

This news release includes certain "forward looking statements" related with the development plans, economic potential and growth targets of [U3O8 Corp.](#)'s projects. Forward-looking statements consist of statements that are not purely historical, including statements regarding beliefs, plans, expectations or intentions for the future, and include, but not limited to, statements with respect to: (a) the low-cost and near-term development of Laguna Salada, (b) the Laguna Salada and Berlin PEAs, (c) the potential of the Kurupung district in Guyana, (d) impact of the U- pgrade<sup>TM</sup> process on expected capital and operating expenditures, and (e) the price and market for uranium. These statements are based on assumptions, including that: (i) actual results of our exploration, resource goals, metallurgical testing, economic studies and development activities will continue to be positive and proceed as planned, and assumptions in the Laguna Salada and Berlin PEAs prove to be accurate, (ii) a joint venture will be formed with the provincial petroleum and mining company on the Argentina project, (iii) requisite regulatory and governmental approvals will be received on a timely basis on terms acceptable to [U3O8 Corp.](#), (iv) economic, political and industry market conditions will be favourable, and (v) financial markets and the market for uranium will improve for junior resource companies in the short-term. Such statements are subject to risks and uncertainties that may cause actual results, performance or developments to differ materially from those contained in such statements, including, but not limited to: (1) changes in general economic and financial market conditions, (2) changes in demand and prices for minerals, (3) the Company's ability to establish appropriate joint venture partnerships, (4) litigation, regulatory, and legislative developments, dependence on regulatory approvals, and changes in environmental compliance requirements, community support and the political and economic climate, (5) the inherent uncertainties and speculative nature associated with exploration results, resource estimates, potential resource growth, future metallurgical test results, changes in project parameters as plans evolve, (6) competitive developments, (7) availability of future financing, (8) exploration risks, and other factors beyond the control of [U3O8 Corp.](#) including those factors set out in the "Risk Factors" in our Annual Information Form available on SEDAR at [www.sedar.com](http://www.sedar.com). Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. [U3O8 Corp.](#) assumes no obligation to update such information, except as may be required by law. For more information on the above-noted PEAs, refer to the September 18, 2014 technical report titled "Preliminary Economic Assessment of the Laguna Salada Uranium-Vanadium Deposit, Chubut Province, Argentina" and the January 18, 2013 technical report titled "[U3O8 Corp.](#) Preliminary Economic Assessment on the Berlin Deposit, Colombia."

<sup>1</sup> September 18, 2014 Technical Report: "Preliminary Economic Assessment of the Laguna Salada Uranium Vanadium Deposit, Chubut Province, Argentina.

<sup>2</sup> January 18, 2013 technical report: "Berlin Project, Colombia<sup>2</sup>; Preliminary Economic Assessment, NI 43-101 Report."

<sup>3</sup> May 20, 2011: "Laguna Salada Project, Chubut Province, Argentina, NI 43-101 Technical Report on Laguna Salada: Initial Resource Estimate".

<sup>4</sup> March 2, 2012: "Berlin Project, Colombia<sup>2</sup>; National Instrument NI 43-101 Report".

SOURCE [U3O8 Corp.](#)

Contact

