



ASX ANNOUNCEMENT

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CardieX Announces Joint Venture with Largest Google Wearable Platform Partner in China

CardieX Limited (ASX: CDX) (“CardieX”, “the Company”) is pleased to announce it has entered into a multi-year Agreement to co-develop consumer wearable applications (“the Agreement”) in partnership with **Mobvoi Information Technology Co. Ltd (“Mobvoi”)**, Google’s official operating partner in China for the development of smart-wearable solutions for Google’s Wear OS platform. Mobvoi is one of the fastest growing AI and consumer electronics companies in China.

Highlights:

- Agreement provides for the co-development of consumer health applications and features for Mobvoi’s line of smart wearable and watch solutions.
- CardieX to be Mobvoi’s exclusive development partner in respect of the development of applications and features related to “smart heart health” and related functions that can be derived specifically from CardieX’s unique algorithms.
- All development activities and commercial execution of the agreement to be undertaken by CardieX’s 100% subsidiary **ATCOR Medical Pty Ltd (“ATCOR”)** based on ATCOR’s SphygmoCor® cardiovascular and hypertension algorithms and patents.
- Mobvoi is one of the fastest growing AI and consumer electronics companies in China in the smart wearables segment and is **Google’s official partner in China** for Google’s Wear OS platform. Wear OS is a version of Google’s Android operating system designed specifically for smart-watches and other wearables. **Major investors include Google, Volkswagen, ZhenFund, and Sequoia Capital.**
- Co-development activities will combine the algorithms and software of CardieX’s subsidiary ATCOR and Mobvoi’s sensor technology into a unique and market leading wearable consumer health platform on **Google’s Wear OS platform.**
- ATCOR will be responsible for developing a set of algorithms specific for implementation in Mobvoi smart-watches. ATCOR will also be responsible for developing the accompanying apps on the smart-watch and smart-phone that form the smart heart health ecosystem.
- Mobvoi will be responsible for creating a next generation smart-watch to integrate algorithms specifically designed for Mobvoi by ATCOR. Mobvoi will also be responsible for integrating the Mobvoi-specific algorithm set developed by ATCOR.



- Agreement provides CardieX Group with access and integration to the Wear OS global operating and software partner network – positions the Company as the “Intel Inside” for a significant wearable device ecosystem.
- Development activities under the Agreement will be synergistic for CardieX across a global ecosystem of Google partners allowing for further product integration with other global Wear OS wearable partners in the Google network.
- Agreement establishes a platform for the largest Google Wear OS provider in China to market a wide range of features and health applications that are “**powered by ATCOR**”. Mobvoi currently sells millions of smart-watches worldwide annually.
- Represents a major and **material validation of CardieX technology** as well as the Company’s strategy to transition from a pure medical device business **to a multi-platform provider of consumer and medical device and software/SaaS based solutions** based on CardieX’s unique, market leading, and patented software algorithms.
- Business model, revenues, and commercialization under the Agreement to be driven by a combination of licensing, royalty, and subscription services and are forecast to be revenue accretive to the Company in FY2021.
- Further additional revenue will be driven by the universal application and monetization of the development activities under the Agreement to CardieX’s other partnerships. All app and software development will be available on a white label basis across the Wear OS global ecosystem to a significant base of other potential partners.
- CardieX now has **two significant partnerships** in both consumer and medical wearable applications. The Company’s JDA with Blumio positions CardieX in the global multi-billion market for Ambulatory Blood Pressure (“**ABP**”) monitoring for medical grade applications based on a unique new radar-based sensor technology currently in clinical studies. The Agreement with Mobvoi positions the Company in **the world’s largest market with Google’s official partner in that country** – with a focus on consumer health applications using existing sensor technology.
- Cardiovascular disease is a global health epidemic and is rising in China on an escalating basis. Policy and government initiatives are incentivizing digital and Internet based companies in China to incorporate solutions to drive better health outcomes.
- According to Statcounter & GlobalStats, the Google/Android operating system currently has approximately 80% of the Chinese mobile device market. Apple’s iOS operating system is second.



About Mobvoi

Although Mobvoi is relatively unknown in the West, the company is the official partner of Google for Google's Wear OS platform in the world's largest wearable and smart-watch market. Wear OS is a version of Google's Android operating system designed specifically for smart-watches and other wearables and provides an ecosystem of applications similar to Apple iOS.

Founded in 2012 and headquartered in Beijing, Mobvoi focuses on consumer electronics and enterprise solutions that leverage its core AI capabilities in voice recognition and natural language processing. Today, Mobvoi's consumer electronics product offerings span smart-watches, smart speakers, smart earbuds and smart rear-view mirrors including their market leading TicWatch series.

As one of the fastest growing consumer electronics companies in China in the smart wearables segment, Mobvoi has secured both strategic investment from Google as well as a strategic partnership with Wear OS by Google in 2015, making itself the official voice assistant platform partner of Wear OS in China. It is also Google's official partner in China for developing and maintaining the China-localized version of Wear OS.

Outside of consumer electronics, Mobvoi has also formed a major joint venture in China with Volkswagen to develop and apply AI technologies to the automotive industry. As a technology "unicorn", with a valuation of over USD1 Billion, Mobvoi has also raised more than USD250M from numerous prominent VC and strategic investors, including Google, Volkswagen, ZhenFund, Sequoia Capital China and SIG China.

Founding members Zhifei Li (CEO) and Mike Lei (CTO) are formerly key members of Google Translate and Google Voice Search teams.

Core team members include other ex-Googlers as well as AI experts, engineers and researchers from top institutions, such as Johns Hopkins, Harvard, MIT, Cambridge and Tsinghua, as well as top internet companies, such as Yahoo, Baidu and Tencent.

Commenting on the transaction, Mike Lei, Co-Founder and CTO of Mobvoi stated:

"The joint development with CardieX's algorithms and Mobvoi's sensor creates the possibility for differentiation of our future wearable products, which is very exciting. We're very much looking forward to seeing the outcome from both sides."



Overview of Transaction Timeline

The partnership with Mobvoi will be separated into a number of phases:

- **Phase 1:** commences with the **Joint Development Agreement (“JDA”)** that the parties have executed. The JDA provides a framework for the co-development activities over the following months whereby the parties will jointly work on the technology integration of the CardieX algorithm and Mobvoi’s sensors.

The objective under this phase is to detail the technology requirements for Mobvoi’s smart-watches as well as for CardieX to provide the first stage of the UI/UX plan for the consumer App and other consumer features for Mobvoi’s smart-watch integration. This process is expected to last approximately 6 months with Mobvoi being responsible for leading the technology and product design and CardieX being responsible for the development of the App and other consumer features.

Details of the feature set and applications as well as App development are commercial in confidence given the competitive sensitivity.

- **Phase 2:** will detail the full operating, marketing, and commercial plan for the outputs of the development process under Phase 1 in accordance with the timeframe and launch plan for Mobvoi’s smart-watch line-up in 2020/2021.

This phase is expected to commence in approximately 6-months given the need for all parties to move swiftly to comply with Mobvoi’s product launch strategy and timeframe.

All parties are to own their respective IP developed under the Agreement. All co-developed IP will be owned jointly.

At no time will Mobvoi have access to CardieX’s unique source code for their proprietary algorithms although both parties have agreed to separately license their technology to the other during the JDA period for the purposes of completing their respective tasks under that Agreement.

The arrangement to separate technology development and commercial terms is a risk mitigation strategy that both parties have agreed to. Phase 1 launches the prototype development on Mobvoi side and app use case development on CardieX’s side. Phase 2 locks in the full commercial partnership terms when both sides have adequately de-risked on the technological development front, which is expected to be six months from the commencement of the JDA. Terms for this next phase are currently under negotiation.

Phase 1 also details the development plan for a new, next generation Mobvoi smart-watch that will feature a smart heart health ecosystem for the first time in the Mobvoi product portfolio history – combined with a companion and smart-watch App to be developed by CardieX. This will be a significant and unique competitive product not available on any wearable device in today’s market.



Overview of Commercial Opportunity for CardieX

Craig Cooper, CEO of CardieX commented and emphasized the following information and further details about the partnership and resulting opportunities for the Company:

“Firstly, I want to acknowledge the efforts of our China team led by Zihan Lin, our VP of Corporate Development, in concluding this transaction. Having just established our China operations in recent months it’s a credit to Zi and the China team that we have been able to execute such a significant and material transaction for the Company in that timeframe. It’s also worth noting the work to date that has led us to this point as we are not operating from a standing start. Both teams (Mobvoi and ATCOR) have already undertaken feasibility work on the sensor/software integration which have given all parties confidence to move forward with the JDA and set out the planning framework and milestones going forward.

Secondly, I want to state that the development agreement with Mobvoi represents the “tip of the spear” for us as we look to expand and transition from a pure device based medical technology business to a multi-platform global health technology company. Although we are the exclusive partner for Mobvoi in this transaction and co-development partnership (in that they have contracted to work exclusively with us), it does not preclude any other development efforts that we, as CardieX, are currently undertaking to further expand the licensing and integration of our core technology across other global technology partnerships.

The importance of this transaction for the CardieX Group also lies in the fact that we are now part of the Google ecosystem in the world’s largest market with a side-by-side development partnership with some of the best and smartest engineers and technologists in the world. As a team, we are now together working on the development of a series of unique and market leading consumer applications and apps that will not only launch in China, but also be available across the complete Wear OS universe for Mobvoi and other Google partners.

Personally, this was one of the most important factors for me in terms of this Agreement and negotiation, and specifically, our decision to partner with Mobvoi. The fact is that we are now part of the “Google and Wear OS family” which opens up a number of global and significant market opportunities for the CardieX Group. We couldn’t hope for a better partner in this regard.

Having said that, the JDA also represents multiple specific commercial opportunities in itself for the CardieX Group of companies:

- As stated above, a partnership with Google’s official Wear OS partner in China via Mobvoi, the significance being that Mobvoi is the actual operating system level strategic partner for Wear OS in China. This means our technology co-development efforts may potentially reach all OEM partners of Wear OS in China – including Huawei.
- Separately and at the OEM partner level, Mobvoi sells millions of smart-watches worldwide, with a significant portion of these sales from within the mainland China market. Access to these Chinese consumers provides us with the ability to test out myriad additional use cases



for generating actionable insights and strong user engagement based on our algorithms and software.

- Establishment of a Wear OS use case in the form of an entire ecosystem powered by our proprietary algorithms (by way of CardieX smart-watch app) to further engage other Wear OS-powered device manufacturers for OEM partnership. Examples include LG, Fossil, Misfit, Asus, Diesel, Fitbit, Skagen and many others.
- Creation of a CardieX smart-phone app as part of the JDA which forms the foundation for connectivity with other CardieX/ATCOR devices in the future, such as CardieX brand home-use blood pressure monitors (BPM's) and other BPMs that are powered by ATCOR as well as CardieX wearable devices (such as our partnership with Blumio). Put simply, once we have developed the app under the JDA, then as long as we can get a signal to that app from any connected device, we will be able to provide a similar digital platform for that device.
- Multiple revenue streams and commercialization opportunities (see more below – *“Timing of Commercial Opportunity for CardieX Group”*).
- Separate (under discussion) development activities relating to a number of other smart health device integrations “powered by ATCOR”.

The eventual commercial objective is for Mobvoi to sell their new smart-watches that are “powered by ATCOR” into their existing e-commerce and physical retail channels, thereby establishing a worldwide installed base of CardieX/ATCOR apps for smart-watches and smart-phones.

It is important to note that the app development work will also be the foundation of our providing remote health monitoring services on a global basis. This will be especially important for the US market, where CardieX can integrate this new app based digital health offering into a connected home health solution and leverage our existing CPT reimbursement code to scale adoption of that service and associated connected devices.

The app development under the JDA effectively creates a white-label smart heart health ecosystem that can be implemented on any connected device that integrates ATCOR's proprietary technology, and which establishes incremental subscription revenue via each additional partnership.

Also in this context, the mobile and wearable brands of China are looking to increase their global footprint aggressively, with brands such as Xiaomi/Huami, Huawei, Mobvoi and others aggressively expanding into international markets and intensely competing on differentiating features. For these efforts, technology partnerships are the key to differentiation, and the ongoing trade war between US and China creates an opportunity for non-US technology companies such as the CardieX Group to own more of the spotlight and stand out as potential technology partners.

Part of our strategy is to take advantage of this window of opportunity to gain foothold into the consumer market with a Chinese wearable partner that has established substantial global retail channels.



Timing of Commercial Opportunity for CardieX Group

Commercially it is expected that the partnership would result in a seven-figure royalty for the initial 12 months of sales commencing FY2021 on launch of the first Mobvoi wearable device “powered by ATCOR”. This assumes a single device integration at launch. Assuming both growth in unit sales of the smart-watch as well as the expansion of “powered by ATCOR” into other lines of smart-watches and other wearable devices, such as smart earbuds, a conservative annual growth rate of 20-30% for the following four years is reasonable for royalty payments.

A successful commercial launch with Mobvoi also enables CardieX to replicate the same type of technology partnership model with other OEMs of PPG-based consumer wearables. A reasonable assumption would be one to two technology partnerships per year, resulting in incremental revenue streams from royalty payments starting between 12 to 24 months after technology partnership is launched. Magnitude of royalty payments depends on ASP (average selling price) of the wearable device, but expectation is between 3-5% of ASP based on current commercial discussions.

Secondary revenue streams will derive from subscription services that are powered by the ATCOR smart-watch and smart-phone apps. The commercial approach is a freemium model whereby basic versions of both apps with basic smart heart health ecosystem features are easily accessible and free to download. However, a monthly subscription fee will apply on a per-user level to unlock premium features that deliver a richer and more engaging user experience created on the foundation of relevant and actionable insights on the user’s cardiovascular health.

Similar to the technology partnership characterized above, this app-based ecosystem is also replicable in the form of a white-label heart health platform for enterprise customers, such as health insurers and large employers. Therefore, accessible to individual consumers via app stores, the heart health ecosystem can also be deployed on a wider scale.

Overall, the combination of royalty fee per unit of sales and recurring subscription fee creates a sustainable and scalable razor-razor blade model that leverages our core technology and enables collection of user physiological data. The key is producing a creatively engaging user experience for a target audience with very short attention span and converting each new user into a “stubbornly” sticky customer.

All of the above add up to a significant and material financial and strategic opportunity for the CardieX Group.

Finally, it’s worth repeating the significance of this transaction for us as a company and for our shareholders. We now have a future revenue generating partnership and are part of the Google network via the largest platform for Google’s Wear OS platform in the biggest market in the world. The JDA and partnership is a testament to the value of our technology as a unique and market differentiating platform for powering next generation consumer health technologies.”

Craig Cooper
Chief Executive Officer
CardieX Limited



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About CardieX

CardieX is a global health technology company that develops digital and device based solutions for large-scale population health disorders. The Company's XCEL device is the world leader in measuring "central blood pressure" which is considered essential for the management of hypertension and related cardiovascular disorders.

CardieX also has a joint venture partnership with Blumio, Inc in Silicon Valley for the development of a radar-based blood pressure sensor incorporating CardieX technology. In November 2018 CardieX entered into an agreement with inHealth Medical, Inc allowing CardieX to acquire up to 50.5% of inHealth by way of a convertible note.

In September 2019 CardieX signed a joint development agreement with Mobvoi Information Technology Co. Ltd (Google's official Wear OS partner in China) to jointly develop an ecosystem of "smart heart" and other consumer health applications for the Google Wear OS platform in China based on CardieX subsidiary, ATCOR Medical Pty Ltd, ("ATCOR"), software and algorithms.