

### Starting Up

- Self-driving cars and motorcycles don't have a human driver. What are the benefits of driverless vehicles? What are the dangers or possible problems?

### Reading Comprehension 1

Read the article quickly. Which of these statements is true?

- Yamaha has created a start-up in Silicon Valley to develop technology for its self-driving motorcycle.
- Yamaha is planning to use technology developed in Silicon Valley to develop its self-driving motorcycle.
- Yamaha has hired several Silicon Valley engineers to work in Japan developing its self-driving motorcycle.

### Vocabulary 1

Choose the best meanings of the words in **bold**.

- |   |                    |                          |
|---|--------------------|--------------------------|
| 1 | a using            | b ignoring               |
| 2 | a moving slowly    | b moving quickly         |
| 3 | a big compared to  | b small compared to      |
| 4 | a self-driving     | b standard driver-driven |
| 5 | a the computer     | b the rider              |
| 6 | a going faster     | b sideways movements     |
| 7 | a taken            | b fired                  |
| 8 | a causes           | b grows out of           |
| 9 | a real possibility | b possible legal problem |

### Vocabulary 2 – vehicle synonyms

Match the synonyms. Use your dictionary if necessary.

- |   |                    |   |                   |
|---|--------------------|---|-------------------|
| 1 | roar ahead         | a | motorcycle        |
| 2 | two-wheeler        | b | change (of gears) |
| 3 | race               | c | accelerate        |
| 4 | shift              | d | car               |
| 5 | four-wheel vehicle | e | competition       |

## Yamaha accelerated push to bring self-driving to motorbikes

Yamaha Motor is aiming to bring self-driving technology to motorcycles by <sup>1</sup>**tapping into** know-how from Silicon Valley, in the midst of its third major attempt to crack the car market.

While the race for automated car driving is <sup>2</sup>**roaring ahead**, the chief executive of the world's second-largest motorcycle maker reckons it will take at least a decade to bring the same technology to two-wheelers on a commercial basis.

Yamaha is starting off with modest investments of up to \$20m - a figure <sup>3</sup>**dwarfed by** the \$1bn planned by Toyota - in Silicon Valley, where it set up a company last summer to hunt for the latest technologies in autonomous vehicles, robotics and drones. In February, it invested \$2m in a US start-up called Veniam for its connected vehicle know-how.

"It's not a sense of crisis, but I want to make sure we stay ahead of the race," chief executive Hiroyuki Yanagi told the Financial Times.

Yamaha's efforts in <sup>4</sup>**autonomous** vehicles so far have involved a motorcycle-riding humanoid robot called Motobot, which showcased robotics controlling balancing. But Mr Yanagi does not envision a fully driverless motorcycle.

"Our current target is how to assist the rider," he said. "The rider can focus more on safety if the machine handling becomes autonomous and <sup>5</sup>**artificial intelligence** can be used for course selection."

The closest Yamaha has achieved in terms of rider assistance system is the R1, its latest high-end racing motorcycle, which is installed with sensors and technologies to control <sup>6</sup>**slides**, brakes and other movements.

Yamaha joins hundreds of Japanese companies that have established a presence in Silicon Valley and the surrounding Bay Area. To adapt to a shift towards automation and driverless vehicles, Toyota is spending \$1bn on an institute in Silicon Valley. Japan's largest employment company Recruit Holdings also <sup>7</sup>**poached** an expert from Google to set up an AI research lab in the area.

But consultants advising Japanese groups say they are often slow in making investment decisions, and many have flooded into Silicon Valley without a clear idea of what kind of technologies they are looking for.

"We're not used to investing in start-ups. That's why we have hired several American professionals in Silicon Valley to find our investment targets," said Mr Yanagi, who spent the early 1990s in Los Angeles exploring early-stage US businesses.

Yamaha's latest push also comes as the company aims to launch a two-seater commuter vehicle in Europe as early as 2019. The entry into four-wheel vehicles <sup>8</sup>**stems from** Mr Yanagi's desire to create new revenue-boosting businesses beyond motorcycles and boats.

Previous attempts to enter the car market have failed and analysts have questioned the <sup>9</sup>**feasibility** of making an expensive bet during a time of slowing demand in emerging markets for motorcycles.

"To be honest, it's taking longer than what we had originally anticipated in terms of technology and the feasibility of the business," Mr Yanagi said when asked about progress on car development. "We're going to take time with this business."

Masahiro Akita, analyst at Credit Suisse, said Yamaha's ability to invest in new businesses will probably be restricted as the business environment darkens with the yen's appreciation. Every ¥1 rise against the US dollar wipes ¥1.4bn off Yamaha's operating profit.

"Yamaha cannot be a big spender at the moment," he said, questioning the ¥10bn (\$89m) in growth strategy costs the company has set aside for the new fiscal year starting in April.





### Group work

Work together to answer these questions.

- 1 Hiroyuki Yanagi says, "It's not a sense of crisis, but I want to make sure we stay ahead of the race." What do you think *would* cause Mr Yanagi to have a sense of crisis?
- 2 Mr Yanagi says, "We're not used to investing in start-ups. That's why we have hired several American professionals in Silicon Valley to find our investment targets." What is the difference between the way an established company such as Yamaha does business and the way a start-up does business?
- 3 Mr Yanagi also says, "To be honest, it's taking longer than what we had originally anticipated in terms of technology and the feasibility of the business." What's necessary for a new area of business to be feasible?

**KEY****Reading Comprehension 1**

Yamaha is planning to use technology developed in Silicon Valley to develop its self-driving motorcycle.

**Vocabulary 1**

- 1 a
- 2 b
- 3 b
- 4 a
- 5 a
- 6 b
- 7 a
- 8 b
- 9 a

**Vocabulary 2**

- 1 c
- 2 a
- 3 e
- 4 b
- 5 d

**Reading Comprehension 2**

- 1 c
- 2 a
- 3 c
- 4 b
- 5 a
- 6 c
- 7 a
- 8 b

**Grammar**

- 1 is developing
- 2 is trying
- 3 has attempted
- 4 has
- 5 are working
- 6 will be
- 7 has invested
- 8 says

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