# Unit The future, e.g. electric cars; robots

e.g. electric cars; self-driving cars= autonomous driving ;

e.g. Tiny robots, e.g. genetic scanner

# Lexical resource

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| **[ try sth out ]** [PHRASAL VERB](javascript:;)If you try something out, you test it in order to find out how useful or effective it is or what it is like. 测试 (性能), 试一下/一把； 玩一把  •  I wanted to **try the boat out** next weekend.  我想下个周末去试一下这艘船。  •  Some owners wish they could **try out the car** in a race track.   一些车主希望他们能在一条跑道上试一下那辆车。  e.g.    /**/try it out** |
| [kə'mjuːt]  commute  1.[I] to regularly travel **a long** distance to get to work;  [V-I](javascript:;)If you commute, you travel **a long** distance every day between your home and your place of work. 长途上下班，通勤  •  Oleksii commutes to IBM office every day by high speed train 每天通勤去迈阿密。  •  McLaren began commuting between Philadelphia and New York.  麦克拉伦开始在费城和纽约之间通勤。 **🡺 magnet, maglev 磁力悬浮火车**  e.g. Commuting in Xi’an city is getting more irritating because of the serious traffic jam during the rush hour almost every day  e.g. He **commutes 20 kilometres** per day from home to his office.  N) A commute is the journey that you make when you commute. 通勤的路程; 每天上班的路程  •  The average **commute** in Shanghai is over 40 miles a day.  洛杉矶平均 **通勤路程** 每天超过60英里。  • My morning **commute** takes 45 minutes. 我早上 **上班路程** 要花45分钟。  [N-COUNT](javascript:;)通勤者 commuter  e.g.  There are significant numbers of commuters using our streets.  有相当多的通勤者使用我们的街道。  2. **[ commute a sentence (to <years>) ]**  technical to change the punishment given to a criminal to one that is less severe（到…）  e.g. His sentence of 20-year imprisonment **was commuted to three years**. 二十年的刑期被 **减刑至三年**。  V.S. **reprieve: If someone who has been sentenced in a court is reprieved, their punishment is officially delayed or cancelled. (被判) 缓刑; 撤销 (刑罚) [ grant sb. a reprieve: 给sb死缓]** e.g.  Fourteen people, waiting to be hanged for the murder of a former prime minister, have been reprieved.  3. **[ commute sth for/into sth]**  technical to exchange one thing, especially one kind of payment, for another 把某物改换为另一物〔尤指支付方式〕  •He commuted his pension for **a lump sum**. 他把退休金改为 一次领清。 **//一次付清, 一次性全额领取,一次性支付: a lump sum** |
|  |
| [ pare down sth: reduce **step by step** cut back on (working hrs);  slash sth/cut: to **greatly** reduce an amount, price etc – used especially in newspapers and advertising大幅度削减 〔数量、价格等；尤用于报纸和广告〕 **[ slash jobs; slash workforce; slash prices ]**  e.g. It will be necessary to **u** considerably.  e.g. People can now **charge their electric cars** in the city **parking lot.** "We've built two **charging stations** for **electric cars**," said city engineer Randolph Schmidt. "If people use more clean electricity for cars and less dirty gasoline, we can decrease air pollution by **paring down(reduce)** the carbon dioxide emissions"  e.g. If the city changes to **natural gas (replacing coal),** air quality will improve because the amount of **carbon footprint** can be greatly **slashed,** including CO2 emission, GHG emission) |

# STOP mp3

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| ['ɒptɪmɪzəm,'ɒptəmɪzəm]  MEANINGS 义项  a tendency to believe that good things will always happen  乐观；乐观主义  [OPP](javascript:;) PESSIMISM  •There are grounds for cautious optimism. 有理由保持谨慎乐观。  grounds/cause/reason for optimism  •Recent results must give some cause for optimism. 近来的成绩一定会让人产生某些乐观情绪。  mood/sense of optimism  •a new sense of optimism in the country 国内新出现的一种乐观主义情绪  optimism (that)  •There was optimism that an agreement could be reached. 有一种乐观情绪，认为能够达成一项协议。  [+ about]  •I don’t share his optimism about our chances of success. 我对我们成功的希望不像他那样乐观 | ['pesɪmɪz ə m,'pesəmɪz ə m]  MEANINGS 义项  a tendency to believe that bad things will happen  悲观，悲观主义  [OPP](javascript:;) OPTIMISM  [+ about/over]  •There is deep pessimism about the future. 对未来存在着极度悲观的情绪 |
| [‚ɒptɪ'mɪstɪk◂,‚ɒptə'mɪstɪk◂]  MEANINGS 义项  1.  believing that good things will happen in the future  乐观的；乐观主义的  [OPP](javascript:;) PESSIMISTIC  •Andrew took a more optimistic view. 安德鲁抱有更为乐观的想法。  [+ about]  •Bankers are cautiously optimistic about the country’s economic future. 银行家对该国的经济前景持谨慎乐观的态度。  optimistic (that)  •We are still relatively optimistic that the factory can be saved. 我们仍然比较乐观地认为工厂能够得到挽救。  2.  thinking that things will be better, easier, or more successful than is actually possible  过于有信心的，过分乐观的  •an optimistic estimate 乐观的估计  over-optimistic  •somewhat over-optimistic expectations 有些过于乐观的期望 | [‚pesɪ'mɪstɪk◂,‚pesə'mɪstɪk◂]  MEANINGS 义项  expecting that bad things will happen in the future or that something will have a bad result  悲观的，悲观主义的  [OPP](javascript:;) OPTIMISTIC  •a pessimistic view of life 对人生的悲观看法  [+ about]  •He remains deeply pessimistic about the peace process. 他对和平进程仍然十分悲观。  DERIVATIVE 派生词  pessimistically adv /-kḷɪ ; -kli / |
| ['ɒptɪmɪst,'ɒptəmɪst]  MEANINGS 义项  someone who believes that good things will happen  乐观者，乐观主义者  [OPP](javascript:;) PESSIMIST  •He’s an eternal optimist (= he always believes that good things will happen ). 他是个永远的乐观主义者。  以上来源于 | ['pesɪmɪst,'pesəmɪst]  MEANINGS 义项  someone who always expects that bad things will happen  悲观主义者  [OPP](javascript:;) OPTIMIST  •Don’t be such a pessimist! 别这么悲观！ |

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| Quantity=>数量词quantifier /ˈkwɒntɪˌfaɪə/  [N-COUNT](javascript:;)In grammar, a quantifier is a word or phrase such as "plenty" or "a lot" which you use to refer to ; a quantity of something without being precise. It is often followed by "of," as in "a lot of money." 量词; a word or phrase such as ‘much’, ‘few’, or ‘a lot of’ that is used with a noun to show quantity数量词 |
| In order to **hit our deadlines赶截止日期**, we work 12 hours a day. |
| **[大惊小怪，小题大做; make a fuss]**  e.g. I've sometimes wondered whether to say anything to my manager,  but have decided not to as I like my workmate and don't want to **make a fuss.**  我有时候会想，是否该跟我的经理说点什么，但还是决定不要这样做，因为我喜欢这位同事，而且也不想小题大做。  e.g. Anyway, I didn't want to **make a fuss**, so I decided to **wink at it.** 我不想小题大做，所以我决定只当没看见算了。  **//wink at sb: 眨眼睛（暗送秋波） V.S. wink at sth bad or illegal: to pretend not to notice something bad or illegal对(不好的事情)睁一只眼闭一只眼，假装没看见** |
| **Once upon a time曾几何时**, there was a young, beautiful, aloof 高冷的girl |
| We really need **blue sky thinking天马行空的想像** , in other words, **think out of the box** and be creative, **and then push the envelope.**  **e.g. What we need is blue-sky thinking and we’ve got to push the envelope. In other words/to paraphrase, we must think out of the box and be creative** |
| You can say **I doubt it** to express doubt. Here are other ways to express doubt   * I find that hard to believe. * That'll never happen. * **[感到有可疑之处: Smell a cat!] feel suspicious about sth, have doubts about stj** * **[半信半疑: take it/that with a pinch of salt捏的一小撮盐]: not 100% believe it, have doubts somewhat** e.g. I'm **pessimistic**. I **doubt** that we can ever stop cancer. It's a **scary** illness, and we'll **never know e**nough about it. Hmm… **Speaking of** that **genetic scanner,** **I take it with a pinch of salt. //说到这个 On that note/speaking of which,** |
| 基因组genome /ˈdʒiːnəʊm/    [基因图谱 genome map]  [N-COUNT](javascript:;)In biology, a genome is the particular number and arrangement of chromosomes within the cells of an organism such as an animal or plant that distinguishes it from other types of organism.  •  ...the mapping of the human genome.   ...人类基因图谱。 |
| /juːˈbɪkwɪtəs/ ubiquitous : [ADJ](javascript:;)If you describe something or someone as ubiquitous, you mean that they seem to be everywhere. 无所不在的  e.g. Seriously, coffee shops are ubiquitous in Seoul. 到处可见 |
| **[给…留下深刻印象; 被xxx深深打动/留下深刻印象: you’re blow[n a]way by sth; sth blows you way]**  [PHRASAL VERB](javascript:;)If you say that **[ you are blow[n a]way by something, or if it blows you away ],** you mean that you **are very impressed by** it. |
| **[slæʃ] slash=cut/axe**  1.[V] slash sth: to cut or try to cut something violently with a knife, dagger, sword etc; If you slash something, you make a long, deep cut in it. 砍; 劈 〔用刀、剑等〕猛削，劈，砍 [slash at/through]  •Someone had slashed the tires. 有人把轮胎割破了。  •The leopard’s claws slashed through soft flesh. 豹的爪子扎入柔软的肉里。  2. [T] to greatly reduce an amount, price etc – used especially in newspapers and advertising大幅度削减 〔数量、价格等；尤用于报纸和广告〕 **[ slash jobs; slash workforces; slash prices ]**  To slash something such as costs or jobs means to reduce them by a large amount. 大幅度削减  •  Car makers could be forced to slash prices.   汽车制造商可能会被迫大幅度降价  •The workforce has been slashed by 50%. 劳动力已削减了 50%。  **[ pare down sth: reduce step by step cut back on (working hrs);  slash sth: to greatly reduce an amount, price etc – used especially in newspapers and advertising大幅度削减 〔数量、价格等；尤用于报纸和广告**  3. **[ 割腕（自杀）: slash/cut your wrists]** to cut the veins in your wrist**s** with the intention of **committing suicide**.  e.g. He came within two minutes of bleeding to death after slashing his wrist**s**.  他割腕后不到两分钟就失血而死  4. .[N-COUNT](javascript:;)A slash is a sloping line that separates letters, words, or numbers, for example, in 340/2/K. 斜线号 |
| **On that note, xxx = Speaking of which, xxx**  **Speaking of sth, xxx**  e.g. Speaking of the environment, we wanna buy a “green” car that uses the ethanol or hybrid gas as the fuel. |
| ['eθən**ɒ**l, 'iː-] 乙醇(燃料) ethanol: the type of alcohol in alcoholic drinks, which can also be used as a fuel to power cars.  e.g. No cars in Brazil run on pure gasoline anymore. The government requires that all vehicles run on blended fuel of about one-quarter ethanol['eθən**ɒ**l, 'iː-] .  如今巴西不再使用单纯靠汽油驱动的汽车，政府要求所有机动车均采用含四分之一乙醇的混合燃料。 |
| |  |  | | --- | --- | | 电动汽车electric vehicles, electric car | 电动汽车electric vehicles, electric car = green cars, environmental friendly => **There’s a growing trend of 有增长的趋势**using **electric cars** in our future public transportation system.  Use electricity, instead of the traditional gasoline or petroleum**[pə'trəʊlɪəm] 石油**, as the supply energy to power vehicles. The most important part is that the electric vehicles/cars must be charged by batteries in an **electricity service station** by plugin the car to the special **power outlet电源插座** instead of **gas station**. | | **HEV** | **[ Hybrid electric vehicle, HEVs or just “hybrid cars” ]**  The following **renewable energies** can be used to produce electricity that would be used as an alternative supply fuel for vehicles.   * [**'eθənɒl, 'iː-] 乙醇(燃料) ethanol:** the type of alcohol in alcoholic drinks, which can also be used as a fuel to power cars * **hydropower水力发电** * **tidal energy潮汐能发电** * wind power * solar power * **biomass (['baɪə(ʊ)mæs]：** plant and animal matter used to provide power or energy生物量 | |
| **[power outlet电源插座]**  **e.g. There’s a growing trend of 有增长的趋势**using **electric cars** in our future public transportation system.  Use electricity, instead of gasoline or petroleum**[pə'trəʊlɪəm] 石油**, as the supply energy to power vehicles. The electric vehicles/cars must be charged by batteries in an **electricity service station** by plugin the car to the special **power outlet电源插座** instead of **gas station**. |
| **[ 一次付清, 一次性全额付清, 一次性全额领取,一次性支付: a lump sum ]**  e.g. He commuted his pension for **a lump sum**. 他把退休金改为 一次领清 //**[ commute sth for/into sth]**  technical to exchange one thing, especially one kind of payment, for another 把某物改换为另一物〔尤指支付方式〕  e.g. For now in xi’an, if you wanna buy a new house, you must pay all price of a house **in a lump sum 一次性全额付清**. Paying the **downpayment首付** and then the regular **monthly mortgage房贷的月供** doesn’t work now.  e.g. Alll accident victims receive loss of income payments and **a lump sum 一次性赔偿**goes to the families if someone is killed – at work, on the roads or on a mountain. |
| **[There’s a growing trend of xxx 有xxx 增长的趋势 = We start to move towards xxx and leave away from xxx]**  **e.g. There’s a growing trend of 有增长的趋势**using **electric cars** in our future public transportation system.  Use electricity, instead of gasoline or petroleum**[pə'trəʊlɪəm] 石油**, as the supply energy to power vehicles. The electric vehicles/cars must be charged by batteries in an **electricity service station** by plugin the car to the special **power outlet电源插座** instead of **gas station**. |

# Lexical\_SupplyEnergy

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| V.S. | 石油 petroleum /pəˈt**rəʊlɪəm**/  V.S. 汽油 gasoline  ['ɡæsəliːn]   * [N-UNCOUNT](javascript:;)Petroleum is oil deposit that is found under the surface of the earth or under the sea bed. Petrol and kerosene are obtained from petroleum. 石油 * **kerosene /ˈkɛrəˌsiːn/** : Kerosene is a clear, strong-smelling liquid which is used as a fuel, for example in heaters and lamps. 煤油 * gasoline: a liquid obtained from petroleum/pəˈt**rəʊlɪəm**/, used mainly for producing power in the engines of cars, trucks etc汽油 |
|  | natural gas: /ˈnætʃrəl ɡæs/ gas that is found under the ground or the sea and that is used as a fuel  e.g. Natural gas powers all city buildings. |
|  | /koʊl/ coal  a hard black mineral that is found below the ground and burnt to produce heat  e.g. Burning coal causes pollution, a main **contributing factor** to the emission of greenhouse gas (GHG ).  V.S.  char /tʃɑː/    1.[V-T/V-I](javascript:;)If food chars or if you char it, it burns slightly and turns black as it is cooking. 烧焦; 烤焦 **[ 把外皮烤焦: char the skins]**  •  Toast hazelnuts榛子 on a baking sheet until **the skins char**.  直到外皮烤焦。  •  **Halve the peppers** and **char the skins** under a hot grill. 烤焦外皮。  2.[N-UNCOUNT](javascript:;)  •  The chops should be cooked over moderate heat to prevent excessive charring.   肉排应以中温烹制以防过分烧焦。  3. [V-T/V-I](javascript:;)to do housework, cleaning, etc, as a job 做家务小时工 **[charwoman]** |
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# Part 1) Environment

## Electric car: trend in future in the automotive industry



 **//I’m all for it.完全支持**



**//On that note/Speaking of which, xxx**







 **//try it out**

**Sure.**

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| 电动汽车electric vehicles, electric car | 电动汽车electric vehicles, electric car = green cars, environmental friend => **having a growing trend of** 有增长的趋势using **electric cars** in our future public transportation system.  Use electricity, instead of gasoline or petroleum**[pə'trəʊlɪəm] 石油**, as the supply energy to power vehicles. The electric vehicles/cars must be charged by batteries in an electricity service station by plugin the car to the special **outlet电源插座** instead of **gas station**. |
| **HEV** | **[ Hybrid electric vehicle, HEVs or just “hybrid cars” ]**  The following **renewable energies** can be used to produce electricity that would be used as an alternative supply fuel for vehicles.   * ['eθənɒl, 'iː-] 乙醇(燃料) ethanol: the type of alcohol in alcoholic drinks, which can also be used as a fuel to power cars * **hydropower水力发电** * **tidal energy潮汐能发电** * wind power * solar power * **biomass (['baɪə(ʊ)mæs]** plant and animal matter used to provide power or energy生物量 |

## Ref: Unit 3 Environment\_GreenProduct.docx; Industry\_Automotive.docx

* Unit 3 Environment\_GreenProduct.docx (C:\Tracy\TW related\English\EF\2 EF oral topics - Script based on Level\EF L14)
* Industry\_Automotive.docx (C:\Tracy\TW related\English\EF\2 EF oral topics - Script based on Level\EF L17\_FieldSpecific\Industry English)

## Electricity service station –**Charging Stations for Electric Cars**



People can now **charge their electric cars** in the city **parking lot.** "We've built two **charging stations** for **electric cars**," said city engineer Randolph Schmidt. "If people use more clean electricity for cars and less dirty gasoline, we can decrease air pollution by **paring down(reduce)** the carbon dioxide emissions" //pare down sth; cut back on (working hrs); slash (price/jobs)

Tracy **commutes** 80 kilometers a day to her bank job in her **electric car**. "The city **charging stations** are wonderful. They show that the city cares about saving the environment around us," she said.

The city **is also serious abou**t improving water and air quality. Last year, the city stopped using coal. Now, natural gas **powers** all city buildings.

# STOP

## Self-driving cars= autonomous driving 自动驾驶

### ## [Related: GM: Self-driving/autonomous cars are our next big thing](http://money.cnn.com/2017/11/30/technology/gm-autonomous-cars-2019/index.html?iid=EL)

General Motors said Thursday that by the end of 2019 it will be mass-producing fully autonomous electric cars.

The cars will be used for a new GM ride-sharing service which, the automaker said, could ultimately be bigger than its current business of simply selling cars.

It's the first step toward a massive shift in its business -- moving away from selling cars to customers to selling rides in autonomous cars.

Today, GM ([GM](http://money.cnn.com/quote/quote.html?symb=GM&source=story_quote_link)) makes about $30,000 over the lifetime of every vehicle it sells, GM president Don Ammann said. But selling rides in driverless cars could mean that figure balloons to hundreds of thousands of dollars per car.

The profits per car could be big because electric cars will eventually cost less to make and, since they don't use gasoline, cost less to run. And since they're autonomous, GM won't have to pay drivers. All of these factors should bring down the cost enough to make the service much more attractive to customers than today's ride-sharing services.

GM is already [manufacturing self-driving Chevrolet Bolt EVs in relatively small numbers on an assembly line in Michigan](http://money.cnn.com/2016/12/15/technology/general-motors-autonomous-bolt/index.html?iid=EL). The cars GM ultimately makes for public use may not be based on the Bolt EV, though. GM also announced plans for a number of new electric cars over the next few years.

At the current rate of progress, GM's ride service should be ready for paying customers by the end of 2019, said Kyle Vogt, head of GM subsidiary Cruise Automation, which is developing and testing the cars along with GM engineers. The service will be rolled out on a city-by-city basis depending on demand and local regulations.

Cruise has been testing autonomous cars for some time around San Francisco, and has [had its own employees using themin a small-scale ride-hailing service](http://money.cnn.com/2017/08/08/technology/future/cruise-gm-ridesharing/index.html?iid=EL). The cars are also being tested in Arizona and Michigan, and the company [plans to test them soon in New York City](http://money.cnn.com/2017/10/17/technology/future/nyc-gm-autonomous-cars/index.html?iid=EL).

For now, GM is still relying heavily on profits from its trucks and SUVs, GM chief financial officer Chuck Stevens said. Those vehicles are currently very popular and profitable, and experts predict they'll be among the last to be hit by the shift toward electric and self-driving vehicles.

### ## For self-driving cars, car washes are a nightmare

<http://money.cnn.com/2018/02/22/technology/self-driving-car-wash/index.html>

The most cutting-edge cars on the planet require an old-fashioned handwashing.

Car washes have been automated for decades, but companies developing fully autonomous vehicles must rely on a human touch to keep their cars and trucks in working condition.

There are a range of problems with putting a self-driving vehicle through a traditional car wash, experts say.

For example, soap residue or water spots could effectively "blind" an autonomous car. A traditionalcar wash's heavy brushes could jar the vehicle's sensors, disrupting their calibration and accuracy. Even worse, [sensors](http://money.cnn.com/2018/02/07/technology/waymo-v-uber-technology/index.html?iid=EL), which can cost over $100,000, could be broken.

A self-driving vehicle's exterior needs to be cleaned even more frequently than a typical car because the sensors must remain free of obstructions. Dirt, dead bugs, bird droppings or water spots can impact the vehicle's ability to drive safely.

Avis, which has years of experience managing large fleets of rental cars, has been [tasked with cleaning](https://medium.com/waymo/well-oiled-and-squeaky-clean-partnering-with-avis-to-maintain-our-self-driving-fleet-2060a1620764) and refueling the self-driving van fleet of Waymo, the self-driving arm of Google's parent company. Avismodified three of its branches in the Phoenix area to tend to the Chrysler Pacifica vans.

"There are special processes that definitely require a lot more care and focus, and you have to clean[the vans] quite often," Avis chief innovation officer Arthur Orduña told CNN. "We give them the premium level of service that I don't think any vehicle globally is getting."

Orduña wouldn't reveal exactly how they're washing the vehicles. But other self-driving car companies such as [Toyota](http://money.cnn.com/2018/01/08/technology/toyota-pizza-hut-self-driving-delivery-cars/index.html?iid=EL), Aptiv, Drive.AI and Uberdescribed to CNN that they use microfiber cloths along with rubbing alcohol, water or glass cleaner for manual cleanings.

For snowy and icy conditions, Uber has a worker apply windshield washer fluid with a squirt bottle to its camera lenses. A puff of air is then used to remove whatever residue remains.

Toyota primarily uses rubbing alcohol on a cloth to clean camera lenses, but sometimes turns to cleaning wipes. But May Mobility, a self-driving startup based in Ann Arbor, Mich., relies on a cloth and water for the entire vehicle.

Meanwhile, some companies, such as Cruise, the self-driving group of General Motors ([GM](http://money.cnn.com/quote/quote.html?symb=GM&source=story_quote_link)), are building sensor cleaning equipment into their vehicles. This should alleviate some need for manual cleaning.

Startup Seeva is developing similar technology to clean autonomous vehicles' sensors. Seeva already offers a system that heats washer fluid to as hot as 160 degrees, and sprays it on surfaces to clean bugs, dirt or ice.

But because autonomous vehicles can have dozens of sensors, Seeva CEO Diane Lansinger doesn't imagine products like this will be able to clean every camera, radar or LIDAR, a laser sensor that most experts see as essential for self-driving vehicles.

"For self-driving technology to scale, we can't have engineers paid $150,000 a year, running around the vehicles and wiping them down," Lansinger said. "It's going to be quite awhile before we get away from the manual care."

### ## Automated Vehicles for Safety

<https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>

Driver assistance [technologies in today’s motor vehicles are already helping to save lives and prevent injuries](https://www.nhtsa.gov/equipment/safety-technologies).

A number of today’s new motor vehicles have technology that helps drivers avoid drifting into adjacent lanes or making unsafe lane changes, or that warns drivers of other vehicles behind them when they are backing up, or that brakes automatically if a vehicle ahead of them stops or slows suddenly, among other things. These and other safety technologies use a combination of hardware (sensors, cameras, and radar) and software to help vehicles identify certain safety risks so they can warn the driver to act to avoid a crash.

The continuing evolution of automotive technology aims to deliver even greater safety benefits and – one day – deliver Automated Driving Systems (ADS) that can handle the whole task of driving when we don’t want to or can’t do it ourselves.

### ##The driverless future: the road to new opportunity?

<http://www.advisian.com/en/global-perspectives/the-driverless-future---the-road-to-new-opportunity?gclid=EAIaIQobChMI1PHK7qP_2gIVAiUrCh1XRQJ5EAEYASAAEgKXdPD_BwE>

With developments in GPS accuracy, data ownership, vehicle connectivity, cyber security and ethical decision making, driverless vehicles are just around the corner for Australia. Current regulations have been scrutinised with respect to safety, licensing and certifications, interactions with enforcement and others in the anticipation of new driverless technology. While most discussions around driverless vehicles focus on the technology, there are larger challenges to address in order to adequately prepare ourselves for the driverless world. A number of these issues were raised at Roads Australia’s ‘National Stakeholder Briefing on Driverless Rollout in Australia’ in February.

Imagine a driverless future where people call a driverless vehicle from their smart phone, arranging cost effective door to door transportation by use of an app. This vehicle could be part of a fleet, each performing multiple trips per day. It is likely that these car fleets would offer a form of cheap and convenient transport so attractive that it could lead to the decline of private car ownership. With this concept in mind it is easy to see how the advent of driverless vehicles will impact far more than just the driver.

## First condition

|  |
| --- |
| Use a first conditional statement to communicate what will result if some event happens. First conditional sentences have two clauses. One clause has the word **if +** a condition. The second clause is the **result clause**. It has a verb in the future with the modal **will**. |

|  |
| --- |
| **If** we **buy** an electric car, it **will help** improve the environment, like the air and water quality.  **If** the city **changes** to natural gas (replacing coal), air quality will improve because the amount of **carbon footprint is slashed, i**ncluding CO2 emission, GHG emission)  **If** I **save** my money, I **can buy** an electric car next year. |
|  |

## Pronouncing the suffix '-ion'

Education transportation information

## Save electricity, to be green/environmentally friendly

MATT: Hey, Alexis, should I turn off the computer in your office? It wastes electricity.  
ALEXIS: Oh, yes, thanks. I'm so bad at remembering things like that.  
MATT: No problem. Actually, I think you're changing .  
ALEXIS: Really? How?  
MATT: You've been remembering to turn off your lights.  
ALEXIS: I have? Great! And I've been getting better with my cellphone charger, too.  
MATT: What do you mean?  
ALEXIS: Well, I turn it off when the phone is charged.  
MATT: Cool. Our electricity bill's going down , so we're doing something right.  
ALEXIS: Wonderful.  
MATT: Right. I'll go turn off that computer.  
ALEXIS: Thanks. See you later, Matt.

# STOP

# Part 2) Future technology

## Ref: Unit 1 Science and technology.docx

(C:\Tracy\TW related\English\EF\2 EF oral topics - Script based on Level\EF L16)

e.g. GM: genetic modification

## Tiny robots, like genetic scanner (a tiny robot):a future predication of tech that I can talk



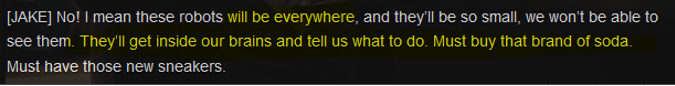


// [PHRASAL VERB](javascript:;)If you say that **[ you are blown away by something, or if it blows you away ],** you mean that you are very impressed by it. 给…留下深刻印象; 深深打动









//ubiquitous: /juːˈbɪkwɪtəs/ : [ADJ](javascript:;)If you describe something or someone as ubiquitous, you mean that they seem to be everywhere. 无所不在的 e.g. Seriously, coffee shops are ubiquitous in Seoul. 到处可见





e.g.

REPORTER: Excuse me, ma'am. Could you answer a question for The News Daily?  
WOMAN: Sure.  
REPORTER: What do you think the future will be like ?  
WOMAN: Well, I recently read an article about DNA. Scientists have created a computer (like a tiny robot) made of DNA. Scientists will put the computers in our bodies. The DNA computers will help give us medicine, which is pretty cool. But **on the other hand,** the computers could read our mind, even can attack our bodies. That's scary ! So, I guess that I don't know if the future will be good or not



## Predicting

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| Use the modals **will** and **be going to** to predict what is going to happen in the future. | | |
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|  | Robots **will** take care of the elderly. |  |
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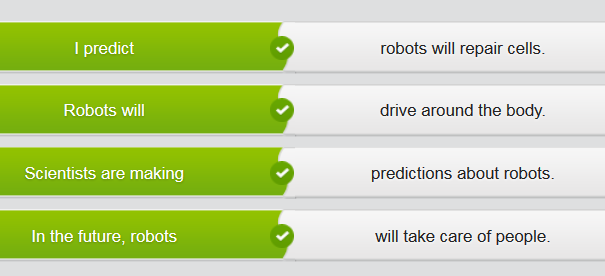
|  |  |  |
| --- | --- | --- |
|  | Doctors **are going to** have **medical scanners** they can hold in their hands. |  |
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| You can add **think that** to say what you guess will happen in the future. | | |
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|  | I **think that** robots will do more of our work. |  |
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| You can also use the verb **predict** to make predictions. | | |
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|  | Scientists **are predicting** that fewer people will die from cancer. |  |
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| Use the expression **in the future** to emphasize that you're talking about a time far beyond the present. | | |
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| --- | --- | --- |
|  | **In the future**, people will wear their technology, not carry it.  V.S. **Once upon a time曾几何时**, there was a young, beautiful, aloof 高冷的girl. |  |

## Predication about robots



Thi[n a]rm

## Expressing surprise, amazement

You can say **That's surprising!** and **That's amazing!** to express surprise or amazement. Here are some other expressions for surprise or amazement

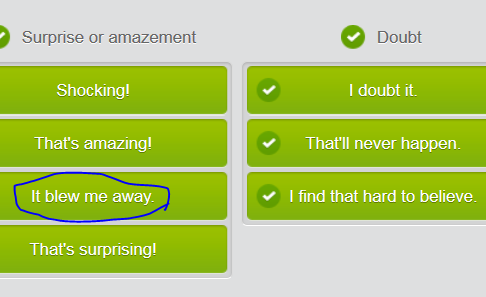
That medical scanner **blew me away, which impressed me deeply.**

I can't believe it!

## Express doubt

You can say **I doubt it** to express doubt. Here are other ways to express doubt

* I find that hard to believe.
* That'll never happen.
* **Smell a cat! = 感到有可疑之处, feel suspicious about sth, have doubts about stj**
* **Take it/that with a pinch of salt: not 100% believe it, have some doublts 半信半疑 //pinch my face/arm**



## Attitude

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| When people talk about the future, they may have a variety of opinions.  When people have an optimistic attitude, they will use positive words. | | |
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|  | I'm very **optimistic**. It's going to be **amazing**! **Friendly** robots will do our work, and life will be **easier**. |  |
| When people have a pessimistic attitude, they may express doubt and use negative words. | | |
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|  | I'm **pessimistic**. I **doubt** that we can ever stop cancer. It's a **scary** illness, and we'll **never know e**nough about it. Hmm… **Speaking of** that **genetic scanner,** **I take it with a pinch of salt.** // **not 100% believe it, have some doublts 半信半疑 //说到这个 On that note/speaking of which,** |  |
| When people are not sure, they will express **uncertainty** (uncertainty). | | |
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|  | I'm **not sure**. I really **don't know** what will happen. |  |
| For doubt, speakers may also use modals of possibility, like **may**, **might** or **could**. | | |
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|  | Robots **might** help us, but the environment **could** be a problem. |  |

## Talking about future technology-robots

You are talking to a friend who has just read an interesting article about the future.

Robots **might** help us, but the environment **could** be a problem.

# STOP

# Part 3) Be creative to stay competitive in business

## Blue sky thinking天马行空的想像, push the envelope = think out of box and be creative

**//What we need is blue-sky thinking and we’ve got to push the envelope. In other words/to paraphrase, we must think out of the box and be creative**







You sound worried? **//fret about sth = worry about sth**





We really need **blue sky thinking天马行空的想像** , in other words, **think out of the box** and be creative, **and then push the envelope.**

















We really need **blue sky thinking天马行空的想像** , in other words, **think out of the box** and be creative, **and then push the envelope.**









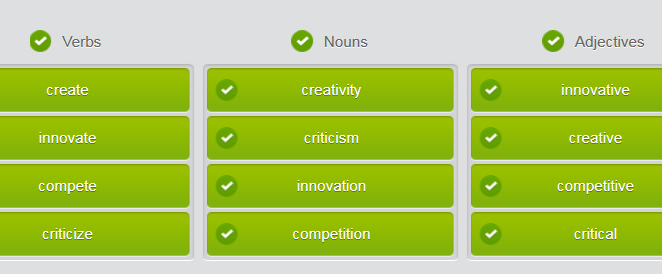
|  |  |  |
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| **Words forms for business** | | |
|  | | |
| Word endings, or **suffixes** (suffixes), can help you identify whether the word is a **verb** (verb), **noun** (noun) or **adjective** (adjective). | | |
|  | | |
| **Verb suffixes** | | |
| The suffixes **-ate**, **-ize** and **-ete** can indicate that the word is a verb. | | |
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|  | cre**ate** | create |
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|  | critic**ize** | criticize |
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| --- | --- | --- |
|  | comp**ete** | compete |
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innovative



Innovation is a critical factor in our success.

To get new customers, we need to innovate.

I love this ad! See what a little creativity can do?

I propose that we create something innovative

## Mobile app telling when you're out of milk or eggs

|  |
| --- |
| Our innovative new software — Mo Shop  I want to tell you about our new software. Mo Shop is going to be great for us because it will kill the competition. It's an **innovative** way to shop with your mobile phone. People have criticized us for being so traditional; we've finally developed something that will make people's lives easier. Here's just one example of our developers' **creativity**: With Mo Shop, your phone will tell you when **you're out of** milk or eggs and pay for it at your nearby supermarket. Then the store will deliver it to your home. Amazing, right?  Let's talk soon.  Mariko |

## Unless = if not

**First conditional with 'unless'**

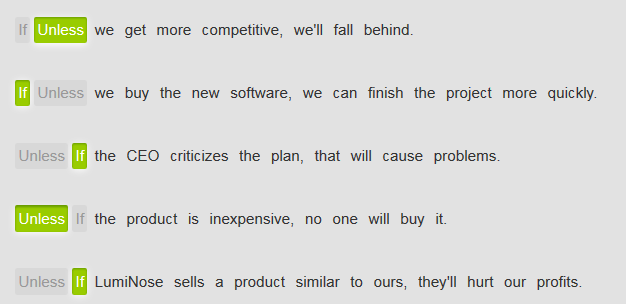
|  |  |  |  |
| --- | --- | --- | --- |
| Sentences with **unless** indicate something that will happen if another event does not happen. Use **unless +** a present tense clause. Then add a main clause with **will**. | | | |
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|  | **Unless** the team can follow the schedule, development **will** fall behind. |  |  |
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|  | **Unless** we innovate constantly, we **won't** stay competitive. |  |  |
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| Sentences with **unless** have the same meaning as **if +** negative verb. | | | |
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|  | **If** I **don't** work hard, I'll lose my job. | |  |
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|  |  |  |
| --- | --- | --- |
|  | **Unless** I work hard, I'll lose my job. |  |



## Express purpose

 In order to develop ...

 so that we can hit our deadlines

 just to do sth

|  |  |  |
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| Use **to +** the base verb to express purpose. | | |
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|  | We need more time **to brainstorm**. |  |
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|  | We developed the product **to make** shopping easier. |  |
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| You can use **in order to**, before or after the main clause, to express purpose in more formal business situations. | | |
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|  | **In order to** **generate** **sales**, we created these new advertisements. |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  | We created these new advertisements **in order to** **generate sales**. |  |
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| You can also use **so that** to express purpose. It can also come before or after the main clause. | | |
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|  | We changed the schedule **so that** we now have time for innovation. / in order to have time xxx |  |
|  |  |  |

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|  | **So that** we have time for innovation, we changed the schedule. |  |

We need downtime **so that** we can plan future projects.

We need some time **in order to** brainstorm new ideas.

Let's work late today so we can leave early tomorrow.

We need to take breaks in order to be more creative.

In order to **hit our deadlines赶截止日期**, we work 12 hours a day.

# Part 4 ) Life in the future













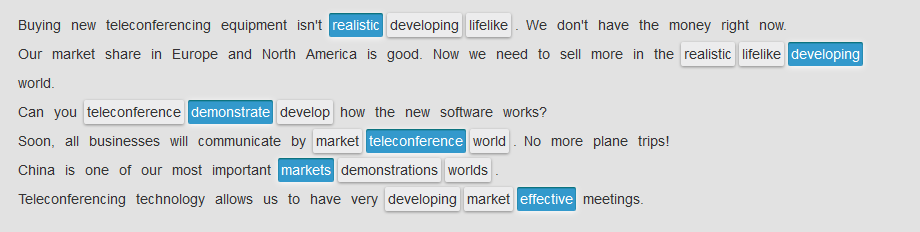
That’s great, I suppose.







Exactly what I was thinking.



## Quantifiers 数量词'more,' 'less' and 'fewer'

Quantity=> quantifier /ˈkwɒntɪˌfaɪə/

[N-COUNT](javascript:;)In grammar, a quantifier is a word or phrase such as "plenty" or "a lot" which you use to refer to a quantity of something **without being precise**. It is often followed by "of," as in "a lot of money." 量词; a word or phrase such as ‘much’, ‘few’, or ‘a lot of’ that is used with a noun to show quantity数量词

* lots of, a lot of
* plenty of xx
* **tons of xxx = loads of xxx = bulk of xx 大量的 = considerable**
* hands of xxx
* much, more, most;
* few, fewer, fewest 可数名词 V.S. little, less, least 不可数名词

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| Use **more** with a noun to talk about an increase in the amount or degree of something. | | |
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|  | In the future, **more people** will work from home. |  |
|  |  |  |

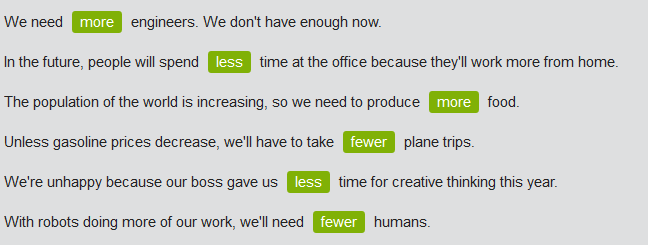
|  |  |  |
| --- | --- | --- |
|  | We'll do **more business** with Africa. |  |
|  |  |  |
| Use **fewer** with plural, countable nouns to talk about a decrease in the number of something. Countable nouns are nouns that we can use with numbers. For example, we can say **one hour** or **two hours**. Countable nouns have plural forms, like **cats** and **houses**. | | |
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| --- | --- | --- |
|  | People will work **fewer** hour**s**. |  |
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|  | In the future, **fewer people** will travel on business. |  |
|  |  |  |
| Use **less** with an uncountable noun to talk about a decrease in the amount of something. Uncountable nouns are nouns that are not used with numbers. For example, we do not count **gasoline**. Liquids and abstract nouns, like **work**, are usually uncountable. | | |
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| --- | --- | --- |
|  | Soon, we'll use **less gasoline**. | . |
|  |  |  |

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| --- | --- | --- |
|  | We have **less work** this year. |  |



## Life in future

|  |
| --- |
| 1. The speakers at the Bright Ideas conference last year gave optimistic ideas about the future. I liked what Henrik Mayer said. He believes that technology will provide more **health services** to people who live far from hospitals. If a sick person has a mobile phone, the doctors will use **teleconferencing technology** to help sick people by phone. This seems **realistic**, and it will help people have fewer health problems in the future. |
|  |  |
| 2. I read a university report that said that **developing countrie**s, the US and Europe **strongly** disagree about pollution laws. The report said that **developing countries** will create more pollution than other countries because they have fewer laws about air and water quality. The report is very **pessimistic**, but I think it is also **realistic**. I believe that world leaders need to meet and discuss this, or we will have terrible environmental problems and **dare consequences** in the future, which may be a **slippery slope**. |  |

3. A German CEO says that Africa will be a huge market for computer businesses. The CEO believes that African economies will grow by 100% by the year 2050. I am also **optimistic** about Africa, but it's not realistic that the economy will grow 100% in such a short time. Africa needs fewer laws that hurt business before the economy will grow that quickly.

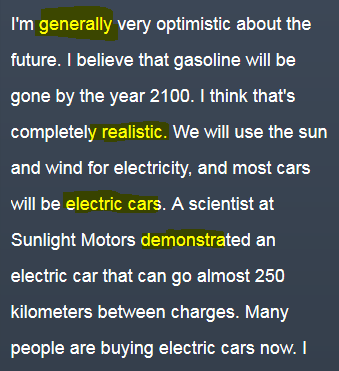
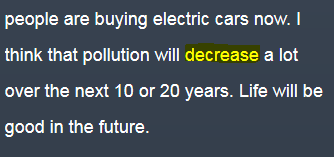
## Write about the future

e.g. electric cars; self-driving cars/autonomous driving

e.g. Tiny robots, e.g. genetic scanner

Write a paragraph about the future. What do you believe will happen in the future? Are you optimistic or pessimistic?

Type in the input box. Write 60-100 words. Use your own words where possible.

Generally, I'm optimistic about introducing tiny robots of cutting-edge technology into the health system in future. Basically, I believe that most basic health checks can be done by robots. For example, the highly sophisticated tiny robots can be injected to humans' body and commuting between cells. The robot can accurately and efficiently tell a disease by scanning your cells. The usage of tiny robots can greatly facilitate patients to do self-check regularly, especially who is living far from the hospital. In a nutshell, I firmly believe that with the advent of tiny robots, human's life will become much easier.

# Stop) CNN related news about xxx