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PREMIUM

Vivendi e Bolloré smentiscono il coinvolgimento di Tim

A seguito di notizie apparse oggi sulla stampa, il gruppo Vivendi e Vincent Bolloré con una nota «smentiscono categoricamente qualunque indiscrezione relativa ad operazioni con Mediaset Premium e a un eventuale e possibile coinvolgimento di Telecom Italia»



Biotech, energia pulita e finanza digitale: il futuro del made in Italy

L'evento del «Corriere Innovazione» all'Unicredit Pavilion

L'innovazione è un concetto che ha una forma molto simile a quella di un imbuto. Mediamente, da 500 buone idee nascono 50 prototipi, ne finiscono sul mercato cinque ma, infine, solo uno ha la forza di diventare un successo di mercato. E purtroppo non c'è (ancora) una legge in grado di prevedere quale di questi 500 sarà: troppe variabili, che dipendono da troppi attori.

Si pensi al videotelefono. Una grande idea, eppure un flop commerciale. Il motivo l'ha spiegato vent'anni fa David Foster Wallace in *Infinite Jest*: «La buona vecchia conversazione telefonica consentiva di presumere che la persona dall'altro lato stesse prestando un'attenzione completa alla telefonata, e al tempo stesso faceva sì che tu potessi distrarti quando ti pareva». Come dargli torto.

Altre volte, invece, sono le casualità a rivoluzionare il mondo. Si pensi al velcro, nato da un ingegnere elettrico svizzero appassionato di caccia, George de Mestral, che tornato da una battuta si accorse di avere dei fiori rossi sulla giacca: s'incuriosì, scoprendo che sul calice nascondevano dei minuscoli uncini.

«Non c'è una regola che governi il cambiamento, è il cambiamento stesso a essere l'unica certezza» ha provato a sintetizzare Carlo Alberto Pratesi, docente di Marketing Innovation all'Università Roma Tre, a cui ieri è stato affidato l'intervento introduttivo di The Innovation Hub, l'evento conclusivo di «Corriere Innovazione» tenutosi negli spazi dell'Unicredit Pavilion di Milano.

Imprese, docenti e *startup* per si sono confrontati per tutto il pomeriggio su sei temi strategici del cambiamento, restituendo poi in platea le rispettive visioni. Finanza, mobilità, economia circolare, tra-

sformazione digitale, energia, biotecnologia: «La prima sorpresa è che l'Italia abbia qualcosa da dire su ciascuno di questi comparti» ha rilevato l'Innovation Editor del «Corriere», Massimo Sideri, sul palco con il responsabile editoriale di «Corriere Innovazione», Giuseppe Di Piazza.

E, in effetti, il «made in Italy» qualcosa da dire, anche ieri sera, ha dimostrato di averla. A cominciare dal settore finanziario, dove il digitale — e la pervasività degli smartphone ne è la più plastica conferma — sta impattando pesantemente sugli intermediari finanziari, aprendo inaspettatamente a nuovi operatori. Oppure la mobilità che, come ha spiegato Marco Finizio di Toyota, «più di un titolo di proprietà (cioè il possesso dell'auto, ndr) sarà sempre più considerato un servizio». O, ancora, l'economia circolare, capace di creare nuovi mestieri, come il *packaging manager*, perché, come spiegato da Giuseppe Scicchitano di Henkel, fino a pochi anni fa la confezione di un prodotto era una cosa da buttare, oggi è una risorsa da recuperare.

L'ambiente, certo. Perché l'innovazione si misura anche in CO₂. Ed è un bene che il digitale, come ha ricordato Alberto Bigi di Sorgenia, «renda più intelligenti le reti di distribuzione dell'energia, mixando fra rinnovabili, batteria d'accumulo e fonti fossili». Infine il manifatturiero: vero motore del Paese, la cui parola d'ordine è Industria 4.0. Che non è, come ha ricordato Fabio Florio di Cisco, «connettere un modem a un tornio, ma cambiare cultura nell'organizzazione». Più che un cambiamento, ci aspetta una rivoluzione.

Massimiliano Del Barba

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Dir. Resp.: Luciano Fontana

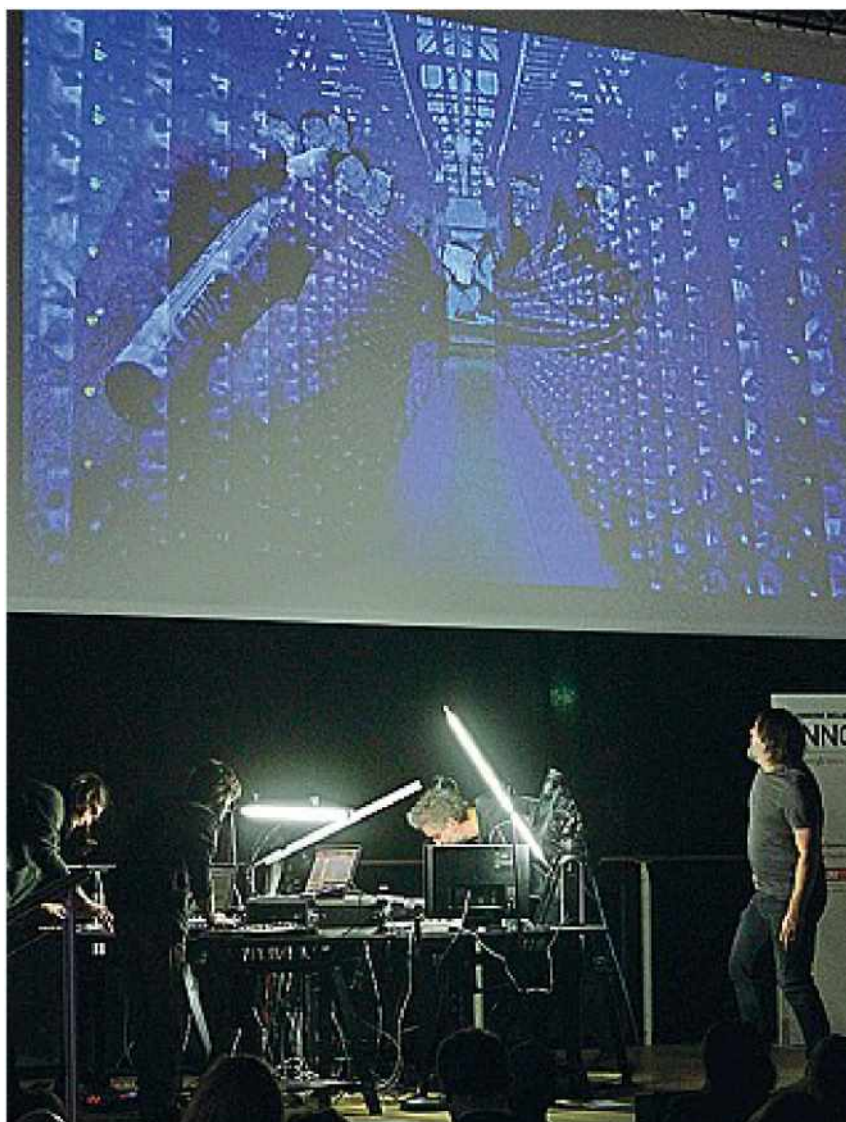
L'evento

● The Innovation Hub è l'evento di chiusura dell'anno di «Corriere Innovazione». Organizzato in collaborazione con Toyota, Unicredit, Conai, Cisco, Bristol-Myers Squibb e Sorgenia, si è tenuto ieri a Milano

● «Corriere Innovazione» è l'inserto del «Corriere» dedicato a territori, creatività, networking e startup (online: corriereinnovazione.corriere.it)



Relatori Qui sopra, Carlo Alberto Pratesi dell'Università Roma Tre. Sotto, Fabio Inzoli del Politecnico di Milano



Sul palco

Un momento dell'evento di chiusura del The Innovation Hub all'Unicredit Pavilion di Milano (Fotogramma)

Le frodi della pubblicità sul web arriveranno a 50 miliardi di dollari

da Parigi

GIUSEPPE CORSENTINO

Ma, allora, nell'ecosistema pubblicitario, come lo definisce con elegante immagine madame Sophie Poncine, la «patronne» di Orange Advertising, insomma una delle donne più ricche di Francia (per il budget a sua disposizione), quanto pesano le «*fraudes au clic*», le truffe organizzate scientificamente - da chi? dalle agenzie? dai centri media? dalle società informatiche? - per fregare gli investitori, cioè le aziende, spacciando per veri i clic fasulli, attivati da batterie di robot che cliccano sugli spazi web al posto degli umani?

Finora si è andati un po' a spanne a valutare un fenomeno che sta smuovendo l'industria della comunicazione pubblicitaria in tutto il mondo, dalla potentissima Ana (Advertising national association) americana all'Uda (Union des annonceurs) francese fino alla nostra piccola Upa (vedere l'intervista del suo presidente Sassoli de Bianchi su *ItaliaOggi* del 28 novembre scorso): un terzo, forse un quarto dell'investimento sparisce nella lunga catena produttiva che va dall'investitore all'editore (dei siti).

Era questa la valutazione. Ora la stima del danno è molto più precisa sia in percentuale sia in valore assoluto. Forse un po' meno dirompente nelle cifre, ma non per questo meno allarmante anche per la fonte da cui provengono queste rilevazioni, lo Iab, Interactive advertising bureau, l'organizzazione internazionale che promuove il web pubblicitario (la sezione italiana è presieduta da Carlo Nosedà), come a dire un soggetto quasi istituzionale, e la società di consulenza e di accounting Ernst&Young.

Ebbene, Iab ed Ernst&Young hanno fatto sapere, in uno studio, che solo nel 2015 e solo sul mercato americano, il più ricco e il più sofisticato dal punto di vista tecnologico, le *fraudes au clic* si sono mangiati 4,6 miliardi di dollari (circa 4,3 miliardi di euro) di investimenti pari al 7,6% della pubblicità online. Detto ancora più semplicemente, il 7,6% degli annunci risulta essere stato cliccato da robot e computer appositamente attrezzati per la frode. In Francia questa percentuale è un po' più bassa, ma non meno preoccupante: il 6,1% di tutti gli annunci.

Le previsioni di Iab e di Ernst&Young sono ancora più inquietanti: da qui al 2025 questa frode gigantesca potrebbe arrivare a 50 miliardi di dollari (circa 46,9 miliardi di euro) in tutto il mondo, se nel frattempo il sistema non avrà trovato il modo di scoprire come lavorano queste batterie di robot che, secondo certi specialisti del mercato come Yann Le Roux, responsabile francese di Integral Ad Science, una società di software che sviluppa programmi anti-frode, sarebbero state impiantate in certe web factory, naturalmente sconosciute e difficilmente identificabili, in India, nelle Filippine e in altri paesi dell'Estremo Oriente dove è a dir poco un azzardo avviare iniziative giudiziarie.

E allora? «Più che intentare cause internazionali», spiega il d.g. di Ad Science, «bisogna attrezzarsi con programmi particolari in grado di scoprire che quei clic non arrivano da potenziali consumatori che hanno visitato il sito ma, appunto, da robot». Per dare un'idea, programmi in grado di leggere certi indicatori sospetti come il tempo troppo lungo trascorso sull'annuncio pubblicitario (in genere un essere umano non supera quasi mai 1 o 2 secondi) oppure il movimento del mouse (se è troppo rettilineo, è quasi sicuro che si tratta di un robot).

Insomma i robot-detective in grado di scoprire le *fraudes au clic* ci sono. Semmai, a questo punto, il problema è fissare regole condivise tra i vari player della filiera pubblicitaria in modo che tutti accettino gli standard dell'annuncio web, dai tempi al numero dei pixel fino al movimento del mouse.

«Non sarà facile», prevede il presidente dell'Upa, Sassoli de' Bianchi. «Ma bisogna provarci. Ne va dell'industria pubblicitaria del futuro».

@pippocorsentino

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Netflix, voci di interesse di Apple e in Borsa cresce

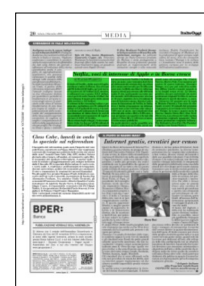
DI CLAUDIO PLAZZOTTA

Il titolo di Netflix, dalla metà di luglio, continua a salire in Borsa. Era attorno agli 86 dollari il 22 luglio, per poi toccare un picco di 127 dollari il 21 ottobre, e collocarsi ora a quota 118,5 dollari, con report di molte banche d'affari che però stimano il target price delle azioni della società a 145 dollari.

Il colosso dello streaming online a pagamento capitalizza ora 51 miliardi di dollari (47,8 miliardi di euro), e in molti vedono nell'andamento di borsa una speculazione al rialzo dietro le voci di un possibile interessamento di Apple a rilevare il 100% di Netflix.

Ma in attesa degli sviluppi, c'è da consolidare il day by day per gli 86 milioni di abbonati in più di 190 paesi, soprattutto nei nuovi mercati. Netflix è in Italia da circa un anno, non comunica dati circa gli abbonamenti sottoscritti, ma stime più o meno autorevoli (per Netflix non sono mai credibili, sia chiaro) collocano il parco clienti pay attorno alle 200 mila unità. Il che, ipotizzando un costo medio mensile dell'abbonamento attorno ai 10 euro, significa circa 24 milioni di euro di fatturato annuo. Questa è più o meno la dimensione di Netflix in Italia, dove i listini propongono un abbonamento base (uno schermo alla volta) a 7,99 euro al mese, uno standard (due schermi alla volta e Hd) a 9,99 euro, e uno premium con quattro schermi alla volta e l'Ultra Hd a 11,99 euro al mese. Il tutto senza pubblicità.

Da pochi giorni è anche possibile scaricare i contenuti di Netflix (serie originali come ad esempio *The Crown*, *Narcos*, *Marco Polo*, *Una mamma per amica*: di nuovo insieme, *Stranger Things*, ecc) per poi vederli in modalità offline (molto comodo quando si va in luoghi senza wi-fi). La library, peraltro, sta per arricchirsi con nuove produzioni originali Netflix: il cartoon *Trollhunters* dal 23 dicembre, e, ancora, *Suburra* (10 puntate per la regia di Michele Placido), Una serie di sfortunati eventi (10 episodi dal prossimo 13 gennaio), la seconda serie di *Stranger Things*, la terza e quarta serie di *Narcos*, *Santa Clara Diet*, *Star Trek: Discovery*, *Las chicas del cable* (prima produzione originale spagnola), *Dark* (prima produzione originale tedesca), *The Defenders*, *Iron Fist*, *The Punisher* e *Gypsy* (con Naomi Watts).



IL PUNTO di MAURO MASI*

La democrazia di Internet e l'oligarchia della creatività

Qual è la chiave del successo di Internet? Lo chiede a questa rubrica un gruppo di studenti dell'università Federico II di Napoli. La chiave del successo di Internet sta nella sua apertura (Open Internet), nella sua libertà (che peraltro è molto più presunta che reale) combinata con la possibilità che ognuno si senta parte di un tutto e che in questo modo si illuda di contare qualcosa (i famosi 15 minuti di notorietà globale cari a Andy Warhol). Se uno scrive un tweet al presidente Usa, al Papa o al premier italiano crede davvero che risponderanno Obama, Francesco o Renzi e risponderanno proprio a lui. Non è così, ma - e questo è il bello e l'arcano della Rete - non lo si può escludere. È questa apparente libertà o, meglio, questo sapore di apparente libertà e di democrazia diretta che fa accettare a tanti di noi quello che la Rete è diventata oggi: il *major driver* della crescita mondiale non solo economica ma anche un Far West dove comanda chi ha la pistola più potente o chi spara per primo. Nessuno è in grado di decidere regole condivise eppure la Rete vive di standard ed essi sono fissati da poche grandi aziende, quasi tutte americane, che non casualmente vengono indicate come Over the Top e che sono divenute icone del nostro tempo: Google, Facebook, Twitter, Amazon, Apple, Microsoft. Gli standard che si sono affermati sulla Rete non prevedono la tutela dei diritti; anzi, su Internet appare regolarmente ciò che altrove sarebbe impossibile perché vietato per legge. In questo senso è paradigmatica la vicenda copyright. Il diritto d'autore è, da ben prima di Internet, fonte di contrasti e polemiche. Le diverse interpretazioni che ne vengono date

sottendono diverse visioni del mondo. Così il diritto d'autore è da taluni indicato (con brevetti, marchi e disegni industriali: le componenti della Proprietà Intellettuale) come una delle grandi leve di sviluppo del sistema economico e della società perché realizza la protezione della creatività e quindi dello sviluppo di idee, invenzioni, pensiero innovativo. Da altri è invece inteso come un freno alla crescita di una società più moderna e aperta; uno strumento per privatizzare la cultura, porre limiti all'accesso all'informazione, perpetuando il vantaggio di pochi a scapito dei molti. Il boom del digitale e della Rete ha enfatizzato queste divisioni rendendole ancor più apodittiche. Scompare la differenza tra originale e copia e l'opera dell'ingegno messa online diventa un patrimonio di tutti e scompare di conseguenza il concetto dell'«avente diritto» in quanto ideatore-creatore dell'opera. Al limite nessuno può vivere della propria creatività perché tutto è (o può essere) trovato gratis online; quindi solo chi ha censo può dedicarsi all'arte e allo sviluppo delle idee configurando così un ulteriore paradosso di Internet: l'anarcoid free Internet favorisce una concezione aristocratica dell'arte e della creatività che richiama da vicino quello che accadeva nell'antica Roma, dove solo i ricchi potevano dedicarsi alla politica in quanto il *cursus honorum* era rigorosamente privo di compensi.

**delegato italiano
alla Proprietà Intellettuale*



Eurobest, i premi per la creatività a Roma

DI PIERRE DE NOLAC

Cos'è il genio? Fantasia, intuizione, decisione e velocità d'esecuzione, come diceva il Perozzi nel film *Amici miei*. A Roma, al Festival della Creatività Eurobest, le giornate sono state vissute nel segno del genio. Gli Awards 2016 voluti dai 116 membri della giuria hanno decretato la vittoria di agenzie innovative e clienti coraggiosi. «Non riesco a immaginare un modo migliore per stare insieme, discutere e celebrare la creatività europea e delineare il futuro di questo incredibile e variegato continente», ha commentato Louise Benson, festival director di Eurobest. «L'Italia ha messo a disposizione un ricco contesto per Eurobest, dalla sua storica tradizione alle prospettive contemporanee dei nostri speaker e giurati italiani. Oltre 30 nazioni hanno collaborato ai contenuti del programma, insieme ai partecipanti arrivati da ogni parte d'Europa».

Numerose sessioni dedicate ai sensi si sono ispirate alla città che ha ospitato il festival e hanno portato sul palco di Eurobest 2016 il trend del branding multisensoriale. Ma ecco i vincitori. Creative Data: Grand Prix a *Nike on Demand* per Nike by R/GA London - UK. Creative Effectiveness: Grand Prix a *Monty's Christmas* per John Lewis by adam&eveDDB - UK. Digital Craft: Grand Prix a *The Next Rembrandt*, per ING by J. Walter Thompson Amsterdam - The Netherlands. Design: Grand Prix a *#PAINTBACK* per Legacy Store Berlin by HEIMAT, Berlin - Germany. Direct, Mobile e Promo & Activation: Grand Prix a *The Swedish Number* per The Swedish Tourist Organisation by INGO Stockholm - Sweden. Entertainment: Grand Prix a *Modern Essentials by Beckham* per H&M by adam&eveDDB, London - UK. Film e Film Craft: Grand Prix a *Paralympics 'We're the Superhumans* per Channel 4 by Blink Productions, London / 4creative, London - UK. Healthcare e Innovation: Grand Prix a *Dot. The First Braille Smartwatch* per Dot Incorporation by ServicePlan Munich /

Dot Incorporation Seoul - Germany. Integrated: Grand Prix a *The Man on the Moon* per John Lewis by adam&eveDDB - UK. Media: Grand Prix a *Girl Emojis* per Procter & Gamble by STARCOM, London / Leo Burnett Chicago - UK. Outdoor: Grand Prix a *Survival Billboard* per Microsoft by McCann London - UK. Print & Publishing: Grand Prix a *Brad is Single* per Norwegian Air by Try, Oslo - Norway. Print & Outdoor Craft: 3 Grand Prix a *Breakdance per Pepsico Deutschland* by BBDO Group Germany - Germany; *Parkour per Pepsico Deutschland* by BBDO Group Germany - Germany; *Skateboard per Pepsico Deutschland* by BBDO Group Germany - Germany. Pr: Grand Prix a *The Swedish Number* per The Swedish Tourist Organisation by INGO Stockholm - Sweden. Radio: Grand Prix a *Sound of Glory* per Ford by Ogilvy Madrid - Spain. Grand Prix for Good: *Check it before it's removed: Naked Breasts on Facebook Against Breast Cancer* per Pink Ribbon Deutschland by DDB Group Germany - Germany. Altri premi speciali consegnati, per Network of the Year, a DDB Worldwide, McCann Worldgroup, BBDO Worldwide. Agency of the Year a INGO, Stockholm; DDB Group Germany, Berlin; adam&eveDDB, London. Independent Agency of The Year a Jung von Matt, Hamburg; Serviceplan, Munich; Grabarz & Partners, Hamburg. Media Agency of the Year a Starcom, London; PHD, London; EMT/Dentsu Aegis, London. European Golden Palm a Sonny, UK; O Positive, USA; Blink, UK. Da segnalare diversi argenti e bronzi a Publicis Italia per Heineken e Renault.

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THE WORLD IN 2017

The world in numbers Industries

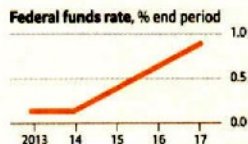
Automotive 103
 Defence and aerospace 103
 Energy 104
 Entertainment 104
 Financial services 104

Food and farming 104
 Health care 105
 IT hardware 105
 IT software and services 105
 Media 105

Metals and mining 106
 Retailing 106
 Telecoms 106
 Travel and tourism 106

Ten business trends for 2017

1 The US raises interest rates once, by 25 basis points. America's indebted shale-oil drillers make a comeback anyway.



5 Connecting everything. More than a third of companies globally will have an "internet of things" project in 2017.

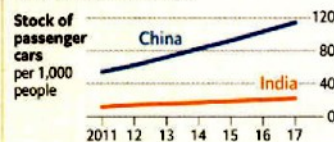
6 Missile sales are the hottest corner of the arms trade, growing by 5%. For a delivery to South Korea, Lockheed Martin has the bellicose North to thank.

8 Rising incomes and expanding populations, plus economic recoveries in emerging markets like Russia, nudge up agricultural prices, though by less than 2%.

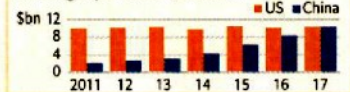
2 Retail sales in countries dependent on commodities suffer: Brazil's 2% growth is stellar next to Venezuela's 25% drop.

4 Stronger demand lifts oil prices to \$54/barrel—too low to sustain Saudi Arabia's health spending, which drops to 5% of GDP, half the world average.

7 India gains favour with carmakers as China's demand decelerates. With just 21 cars per 1,000 people, India has room to advance.



9 China's box-office takings steal the limelight as they top America's, hitting a peerless \$10.3bn.



3 Emerging-market firms spread their wings. South Africa's Pick n Pay opens shop in Nigeria, where sales volumes rise by 3%.

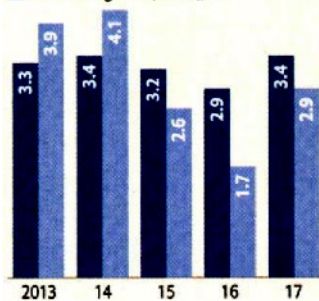
10 Mobile-phone subscriptions globally soar to 6.1bn as broadband demand in the developing world climbs. Fixed-line connections wither.

Sources: PwC, Vodafone, The Economist Intelligence Unit

Business environment

World GDP and trade

■ World GDP growth (real terms, at PPP), %
 ■ World trade growth (\$ value), %



Central bankers will keep interest rates low for yet another year, nudging along global growth. Yet cheap credit will strain at the limits of its usefulness: world growth will fail to top 3.3% at purchasing-power parity. Uncertainty will reign—especially in the EU, which will grapple with existential questions. Hopes of a boost from long-discussed Atlantic and Pacific trade pacts look forlorn. Defying free-trade-despising populists, global trade will rise a little more buoyantly in 2017, by nearly 3%. Emerging markets as a whole will grow by a tidy 4.6%, up from 4% in 2016.

2017 forecasts unless otherwise indicated. World totals based on 60 countries accounting for over 95% of world GDP. london@eiu.com

Source: The Economist Intelligence Unit

Automotive



Allegations, investigations and litigation: the spreading emissions-cheating scandal sparked by Germany's Volkswagen will drag on into 2017. With diesel cars under extra scrutiny, carmakers will step up investment in electric models. They will trail Tesla, whose vaunted Model 3 sedan, able to go around 350km (217 miles) on one charge, will arrive in late 2017, if the company can boost output. The (still small) market for electrics is growing rapidly: overall passenger-car demand will expand by 3% in 2017; sales of electrics and plug-in hybrids are zooming along over 15 times faster.

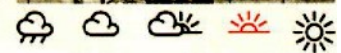
The coolest technologies will coalesce quickly, pointing towards a future of electric-connected cars. Incumbents must either fight or join forces with tech interlopers. Apple's CarPlay and Google's Android Auto entertainment systems are just beginning to tap their potential. Volkswagen will explore ride-sharing, pairing with Gett of Israel; so, too, General Motors, after a \$500m tie-up with America's Lyft. Self-driving will gain momentum, despite safety fears. Volvo and Uber will make self-driving cars in a \$300m partnership; trials start in early 2017. Uber

could go public in 2017 and so might Didi Chuxing, its conqueror in China. Google has started testing its own (predominantly electric) range of driverless cars for ride-sharing. Its nearest Chinese equivalent, Baidu, will be busy developing a (Chery-made) self-driving car—electric, naturally.

As the American car boom fades—registrations are set to advance by less than 2% after reversing slightly in 2016—emerging markets will bring new customers and tougher competition. In pivotal China, locals are clawing back market share, but a tax credit's expiry will slow growth. India is back in favour as its car market revives: Toyota and Fiat Chrysler will invest more. Meanwhile, South Korea's Hyundai is in the midst of a four-year plan, ending in 2017, to roll out 22 new models in Europe as it moves upmarket. Traditional or new-fangled, all players must "localise" to please drivers and control supply-chain costs.

TO WATCH: Electrifying trucks. The improved technology, comfort and handling—and regulated greenness—of passenger cars will spread to heavy vehicles. Tesla will provide a peek at its line of electric heavy trucks and buses in early 2017. Uber, meanwhile, has acquired Ottomotto, a Californian startup making self-driving lorries. Daimler, an industry stalwart, is testing its own autonomous trucks for production in 2017-18. Investments could pay off: commercial-vehicle sales will accelerate sharply in 2017, by 6%.

Defence and aerospace



Cheap fuel is a mixed blessing for aircraft-makers. Along with easy credit, it buoys airline profits, stoking demand for planes. Yet it dampens the need for the fuel-efficient models manufacturers are now pushing. On balance, though, they are set to gain altitude as they deliver 7% more jets in 2017, says Moody's, a ratings agency.

Young airlines in Asia are keen customers for big-plane makers and prefer narrow-body jets. Good news for Airbus: orders for its re-engined A320 "neo" models are around 50% higher than those for Boeing's 737 MAX, which is due in 2017. The wide-body A330 neo, a cheaper competitor to Boeing's 787, is coming later in 2017. Given all of this, Europe's standard-bearer will almost match its American rival for market share.

The hangover from austerity lingers, but global military spending is on the rise again, thanks not least to the two-year American budget deal. A wobbler security outlook will also serve to boost global defence spending by up to 4%, Moody's reckons. Proliferating threats include terrorism, Russian adventurism, turmoil in the Middle East and North Korea's nuclear

I numeri sull'industria nel mondo

shenanigans. Turmoil is good for weapons-makers: demand for missiles and missile defence, the hottest part of the arms trade, is growing by 5% annually.

TO WATCH: Print (aero)space. Aerospace and defence firms provide over a tenth of 3D-printing revenue and, as "additive" techniques improve, their interest is sharpening. Printed plane wings are still a long way off. Components for missiles, however, are already being made additively and from 2017 Europe's MBDA, one of the big three missile-makers, will use printed parts in its Sea Ceptor ship-mounted system.

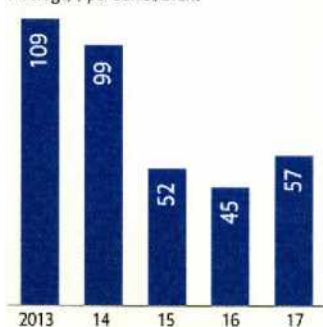
Energy



Cheap oil is forcing commercial drillers to slash investment. But global supplies will grow again in 2017 as OPEC members struggle to implement an agreement on output cuts. Cheating on quotas is par for the course among the group's members. Resurgent, post-sanctions Iran will pump hard to compete with its adversary, Saudi Arabia, which is spewing out oil at unprecedented rates—above 10m barrels a day. The cartel's remorseless output (despite languishing prices) has helped stall America's shale-oil revolution. But 2017 heralds a turnaround for American shale-oil drillers, whose output will roughly stabilise. With more cars on the roads and emerging economies a bit more buoyant, demand for oil will outpace supply for the first time since 2013. The average price per barrel of Brent crude will rise by a fifth to \$54/barrel in 2017.

Oil price

Average, \$ per barrel, Brent



Historically, liquefied-natural-gas (LNG) prices are indexed to oil in long-term contracts. In 2017 the link will be irrevocably loosened. A more efficient LNG market, where spot prices eventually rule, beckons. Emboldening buyers will be huge additions of liquefaction capacity, notably at Chevron's gargantuan Gorgon facility in Australia and Sabine Pass and Cove Point in America.

In Japan, creeping restarts of nuclear reactors shuttered after the earthquake in 2011 and growing energy efficiency will slow the appetite for LNG. Worldwide, energy consumption will rise by 2%.

Global coal demand will stagnate and a recent price rally will prove short-lived. Indian coal consumption is rising rapidly, but China's looks to have peaked and will slip slightly in 2017. Green schemes—China says it will launch a nationwide carbon-trading system—will boost capacity for generating power from renewable sources.

TO WATCH: Pemex's problems. In July 2016 Mexico's Petróleos Mexicanos announced its 15th consecutive quarterly loss. Production is falling; its pensions bill is worth nearly a tenth of national GDP. The troubles are hastening some tough choices, and the company will at last bring in foreign partners. First up is the Trion deepwater field near the US border, which could require \$11bn of investment.

Entertainment



Cinema is predominantly a China story. China's box-office takings of \$10.3bn in 2017 will surpass America's, according to PwC, an accountancy, supplying most of the 8% growth in global revenue. Chinese film fans are underserved, so cinema screens are going up at the heady rate of 15 a day. Yet Hollywood studios will feel short-changed unless quotas on foreign films are axed—unlikely, given protectionist instincts and censors' insecurities about showing foreign fare.

Superheroes will remain a staple for Hollywood: in November, Warner Bros' "Justice League" will reunite a raft of DC Comics misfits. Sci-fi will provide plenty of competition. With Episode VIII of Star Wars due in December, Disney will doubtless hope to beat the \$2bn grossed by the previous instalment, "The Force Awakens".

Studios and traditional TV-players face a run for their entertainment dollars from over-the-top video and streaming. The leader, Netflix, hopes to become solidly profitable in 2017. But subscriber growth is slowing. Content owners will fight back with their own streaming services. Looming threats will come from Amazon and Hulu, which plan to show live TV from 2017.

TO WATCH: Pokémon Go go go. How can Nintendo possibly hope to follow the runaway success of Pokémon Go? Why, with a second-generation version of the "augmented reality" game

2017 WHAT IF?

Here's a good party game for the festive season: fantasy tech mergers. Deals in the sector have surged. Surely, though, there must be some "synergistic" acquisitions left for Silicon Valley startups-turned-giants seeking to recapture their youth? Might Google swallow Twitter, perhaps, or even a car company? Could Amazon snap up Best Buy to become a bricks-and-mortar purveyor of consumer electronics? Intriguing possibilities abound. But **Apple buying Netflix** (aka Appflix?) is particularly beguiling. Tim Cook, Apple's boss, says it could spend big for "a deal that fits strategically". It could, for example, be in the market for a video-streaming company. Its own efforts in video, via Apple TV, have not been knock-out successes. Apple needs a boost. While Netflix has its problems (see Entertainment), it is the undisputed market leader. Apple could be a handy financier for its ambitious expansion plans. The company is not known for frittering its cash hoard, now worth about \$230bn. But then Netflix might only cost a paltry \$40bn.



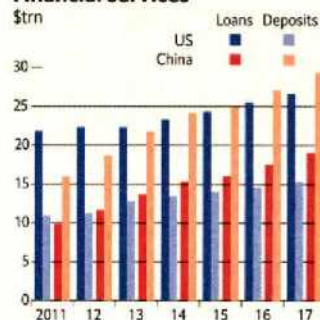
and a movie spin-off, "Great Detective Pikachu", to begin production in 2017. It will also launch the Nintendo NX console in March—reportedly portable, which should please Pokémon addicts.

Financial services



The opportunity to save, borrow and invest will reach more people than ever in 2017. As financial services spread, total lending will top \$100trn. A bank or investment firm will surely fall here or there, but after years of jangling nerves, financial systems thankfully look fairly stable. Yet for the titans of finance, finding ways to profit will be a frustrating business. Blame flagging rich-world economies, sagging or subterranean interest rates, and suffocating regulations.

Financial services



America will make banks fall into line with stricter rules on liquidity requirements from 2017. Lenders in Europe have been given all of 2017 to swim through the sea of paperwork between them and compliance with the EU's MiFID II regulations. In the City of London, Brexit will cast a pall of uncertainty over many things, including the need to comply with EU rules.

Rock-bottom interest rates will be a burden for most financial firms, nar-

rowing banks' interest margins. Growth in lending will expand only weakly in real terms in many slow-growing rich countries. In emerging markets with loftier rates, juicier interest margins and expanding populations, lending growth will reach double digits, as, for example, in Indonesia (17%) Vietnam (15%) and the Philippines (11%).

Deposits in China will approach \$30trn, nearly twice US levels, and lending will grow by 10%, supported by interest-rate cuts in early 2017. As reform advances, smaller beneficiaries will bring the fight to big banks like ICBC, the biggest globally by assets.

TO WATCH: Technophobes to technophiles. Bankers fear financial technology, but will try to harness it. Blockchain, a digital ledger of transactions, is a much-hyped part of "fintech" firms' challenge to incumbents. Fans point to its potential to save back-office costs. If blockchain works, industry stalwarts will seek to bend it to their own designs. Indeed, the World Economic Forum reckons 80% of all banks will be using it by 2017.

Food and farming



Bad weather for the 2015-16 crop year broke a run of bumper harvests that had long depressed agricultural prices. The El Niño weather phenomenon reduced output in many regions—palm trees took a beating, for instance, and production of cocoa will still feel the effects of El Niño-induced drought in 2016-17. Maize will be a notable exception, as near-record planting in America forces up global production. Largely, though, food harvests will be little better than the preceding season, and in some cases worse. Given high stockpiles, the EIU's index of agricultural prices will stage a slow recovery, rising by less than 2%.

Agricultural commodities

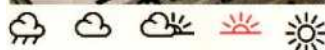


Rising demand in developing countries will also push prices up; population growth, higher incomes and changing tastes will work their magic. The end of recessions in Brazil and Russia will help, although Russia has extended for 2017 its ban on importing European foodstuffs, in response to sanctions over the Ukraine crisis.

Momentously, EU production quotas for sugar will go in 2017, just as prices rise by 10%. Europe, once a major sugar producer, will be on the path to becoming a net exporter of the sweet stuff again. France's Tereos, a global co-operative of 12,000 farmers, is expected to increase its sugar-beet output in 2017 by 20%. Poor sugar-exporting countries in Africa and the Caribbean will need to find new teeth to rot. In Argentina, the president, Mauricio Macri, removed export taxes on wheat, maize and sunflower in late 2015. Unshackled, Argentine wheat production will surge by 25% in 2016-17.

TO WATCH: All the Teavana in China. Starbucks may have once been all-but-evicted from the Forbidden City amid a nationalist outcry, but America's iconic coffee chain now intends to sell tea to the Chinese. It is launching its "Teavana" brand in 16 markets in Asia. Looming largest is China's 63bn yuan (\$9.4bn) market for tea—ten times as big as for coffee, Bloomberg reports.

Health care



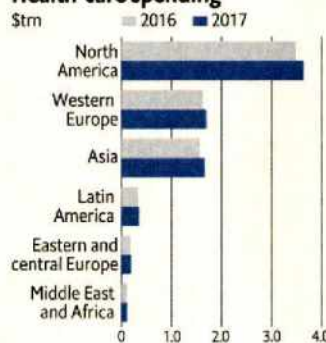
After a nasty slip, spending on health is climbing again and in 2017 will rise by 4% in dollar terms globally. A more detailed prognosis depends on local economic conditions. Health-care markets in the Middle East and Africa will lose lustre as the likes of Saudi Arabia, where health-care spending as a share of GDP will fall back below 5% (compared with a world average of 10.5%), pare back lavish plans hatched in the oil boom. South Africa's weak fiscal

position will keep spending flat. Asian countries building universal health-care systems—think India and the Philippines, with health-care spending growing by 7%, Pakistan (9%) and Indonesia (11%)—will help counterbalance a slowdown in China (4%). Thirty percent of new health-care outlays globally will be in Asia.

Western Europe's tentative economic revival will loosen the squeeze on health services. Stricter EU rules on medical devices mean more red tape but, following scandals over dodgy hip replacements and breast implants, should help protect patients. A new problem could come from unproven, unregulated stem-cell treatments, booming in trend-setting America.

Under the Affordable Care Act, American spending will expand (by 4%) but so will cracks in the system. With health insurers' profits threatened, pressure will mount for higher premiums. If regulators stymie this, insurers' willingness to participate in Obamacare may shrivel. Worldwide, pharma firms face intense pressure to prove value and cut costs. But this will not prevent drug sales growing by 5%, thanks to innovative treatments and fewer medicines coming off patent.

Health-care spending



TO WATCH: Oncological connections. Certain antibodies have had striking success in combating cancer. Anti-PD-1s, which act against "programmed cell death protein one", make it easier for the immune system to attack cancer cells. Next, biopharmaceutical firms want to combine them with other effective treatments, from chemotherapy to vaccines. Though most success with anti-PD1s has come in fighting skin and lung cancer, pharma firms are exploring wider uses.

IT hardware



Hardware will play the ugly sister to software's cool sibling. Gartner, a consultancy, says the volume of devices

2017 WHAT IF?

The Economist Intelligence Unit sees sunnier skies for most emerging markets in 2017. Yet corporate debt in the developing world stands at 75% of GDP compared with 50% a decade ago. Could an **emerging-market corporate-debt crisis** suddenly darken the horizon? Quite conceivably, yes. The trigger could be a flight to safety as America's Federal Reserve tightens interest rates in 2017. Venezuela, with gaping fiscal and current-account deficits and a government in disarray, would be most vulnerable. A sharp fall in commodity prices, possibly caused by an **economic hard landing in China**, is another risk for emerging markets. The EIU rates the chances of this at 40%, the biggest threat to its worldview.



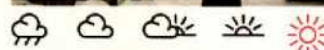
sold, ranging from PCs to mobile phones, will grow again in 2017, but only just. Businesses and governments will spend 5% more on computer equipment in 2017, according to another research house, Forrester, thanks to the popularity of PCs incorporating the new Windows 10 operating system and sales of tablets—used by waiters taking orders, for instance, or diners doing so themselves.

Traditional storage- and server-makers will suffer from the cloud-computing challenge. Players like Taiwan's Quanta and Mitac, and China's Sugon and Lenovo, have the added advantage of being based in Asia, the heart of new demand.

Machines will increasingly talk to machines: 37% of enterprises will implement an "internet of things" project in 2017, according to a survey by Vodafone, a telecoms company. Boosters of such wizardry are looking to Chinese factories as a market: the manufacturing powerhouse ranks only 28th globally in automation.

TO WATCH: Robot rights and wrongs. As artificial intelligence spreads, so too will ethical dilemmas. Look at "medtech". Fans claim AI will remake health care, using algorithms to do the grunt work of diagnostics. Yet could a virtual doctor explain its thinking so patients can make informed choices? From 2017 the Realbotix project talks of producing an advanced sex robot equipped with AI.

IT software and services



A somewhat brighter global business environment will lead to a 9% jump in spending on "business technology"—things like programs for managing customer relationships, call centres and supply-chain management. China's market for IT and communications, while one to watch, will be a distant second to America's.

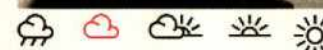
Two related trends should prove lucra-

tive. Titans of engineering will give themselves makeovers for the era of "Industry 4.0" and the "internet of things"; tech giants will be scrambling to convert themselves into purveyors of the "cloud" and services based there. In a tie-up between General Electric and Microsoft to be launched in earnest by the second quarter of 2017, GE will run its Predix software—built for the industrial internet of things—on Microsoft's Azure cloud service. Microsoft wants to close the gap with Amazon, the runaway market leader.

Supplying cloud "platforms" and the "software-as-a-service" applications used there will be two of the best bits of the IT business. Revenues of the latter will grow by 23%, says Forrester. In a nice self-sustaining loop, nobody will adopt "SaaS" faster than app developers: this (still tiny) corner of the market is set to grow by half in 2017. Standing on the shoulders of industrious app-writing, total software spending will expand by 7% to \$640bn, with an only slightly less gargantuan sum spent on consulting and systems integration.

TO WATCH: Just not going Huawei. Having become the world's third-largest smartphone-maker, China's Huawei plans to harry the Western kings of the cloud. It already provides cloud services in China and is expected to spend \$1bn or more a year on R&D to make itself a top global player in data-centre hardware and software.

Media



After a year of telegenic happenings like the Olympics and reality-TV stars campaigning for the American presidency, Magna Global, a consultancy, forecasts slower growth in advertising revenue in 2017, at 3%. TV is where ad men traditionally make most of their money, and America's TV-advertising market is the main event. Yet things are changing. Growth in TV-ad revenue comes increasingly from markets

like India and Brazil. Meanwhile, total internet advertising will expand by 11%, according to PwC. Digital spending could be nearly 40% of the total in 2017, says Magna, more even than TV.

Few would doubt that Facebook and Google will attract most of the fresh online ad spending: recently, they have mopped up perhaps three-quarters of it in America, says a venture-capital firm, Kleiner Perkins Caufield & Byers. Takings from video ads on mobile phones will rise by a third in 2017.

Print publishers are struggling to profit from these trends. Ad revenue from newspaper websites will be only about a fifth of print ads and will fail to grow quickly enough to counterbalance the latter's sinking popularity. Newspapers' total advertising take will slip by 3% and circulation will barely rise; the outlook for magazines is almost as bleak.

Metals and mining



Years of falling prices have battered mining firms. Fortunately, many of them will enter 2017 in leaner shape. A titanic splurge on new pits to feed China's boom has given way to deep cost-cutting: makers of metals like steel and aluminium have been shuttering operations. The biggest, BHP Billiton, has booked record losses but aims for productivity gains of \$2.2bn in the two years to June 2017. Such restraint and a better economic outlook will reward miners with higher prices in 2017. As the cycle starts to turn, the EIU's index of industrial commodity prices will climb by nearly 8%.

Still, metals prices will lag far below those of the boom years. China's appetite for commodities will not rebound to what it once was. Only some of the resulting gap in demand will be filled by South-East Asia and India.

Take steel. Output in China, the biggest producer and consumer, will fall by less than 1% as excess capacity remains: China will produce almost 25% more crude steel than it needs. But Western steel producers will rejoice at new EU and American tariffs on some Chinese exports. Steel prices will rise by 4.5%.

Zinc will be the only major metal to surpass its 2011 price, with an average 25% surge in 2017. Car manufacturers are mostly to thank. The picture is less rosy for copper and aluminium: cutbacks and rising demand will not be enough to raise prices much. Gold will keep glittering. Low interest rates in many countries will suck money into gold exchange-traded funds.

Retailing



Traditional retail and consumer-goods giants will be assaulted by nimbler online firms and emerging-market players (China's Alibaba ticks both boxes). To keep up with the Amazons, Walmart will invest \$2bn in grocery services, warehouses and a mobile app in 2016-17; the world's biggest retailer will also be busy assimilating Jet, an e-commerce marketplace.

Retail sales

Volume growth, % change



Retail-sales volumes will expand at a tepid 3% worldwide in 2017 as economic and political uncertainty reduce consumer demand. Emerging markets, despite their promise, will be uninspiring. Retail-sales volumes in Russia will not budge in 2017 (albeit an improvement from dire recent form), amid tit-for-tat sanctions with the EU. McDonald's, though, is expanding there and intends to use Russian potatoes in its French fries by 2017. In Brazil growth won't even reach 2%; in troubled Venezuela, sales will plunge by 25%. As mighty China also flags—6% growth is low by its standards—more companies will look to India (7%) to take up the slack. IKEA opens for business there in late 2017.

Brace for more cost-cutting and talk of "synergies" through acquisitions. Consumer spending on food, beverages and tobacco will grow by 5%. But brewers will find the mega-merger between SABMiller and Anheuser-Busch InBev difficult to swallow. The new firm—with around 30% of global beer sales and 50% of profits—will shed thousands of jobs and, to appease regulators, European assets worth perhaps \$6bn.

TO WATCH: Bricking it. Forecasts reckon Amazon will overtake Macy's in clothing sales in 2017. As it struggles to cope with online competition, the biggest American department-store chain will shut most of the 100 stores set to go in its latest closures by 2017. Terry Lundgren, its long-serving chief executive, will step down in the first quarter (but remain as chairman).

Like other bricks-and-mortar chains Macy's, which has a tie-up with China's Alibaba, favours "co-opetition" with online peers in its search for survival.

Telecoms



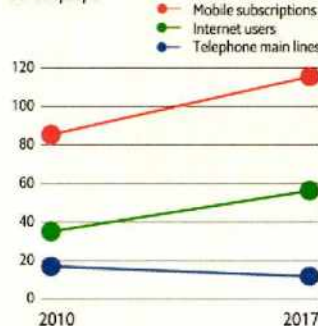
Belying its name, fixed telecoms faces rapid change. By 2017 fixed-line connections will have shrivelled by more than a quarter since 2010, to around 630m worldwide, while mobile subscriptions will have climbed from 4.3bn to over 6.4bn. The number of internet users will surpass 3bn. The future, then, is in mobile broadband in developing countries. Operators will look to this market and buy up spectrum licences so they can roll out advanced fourth-generation (4G) and long-term evolution (LTE) networks.

Cheap 3G smartphones will be at the core of much of the growth in broadband and mobile data in regions like South-East Asia and eastern Europe. But countries from Mexico to South Africa will hold 4G-spectrum auctions. Bidding in America for wireless in the 600-megahertz band, used until now by TV stations, may drag on into 2017. T-Mobile, one of the major players, has been waging an intense price war but is now turning its attention to infrastructure investment.

Everywhere, though, deploying new spectrum will strain operators' balance-sheets. India may need to launch another auction in 2017 to sell leftover 4G airwaves at a bargain. Nonetheless, an Indian giant, Reliance Industries, reckons 90% of Indians will have access to its 4G service by 2017. In the biggest smartphone market, China Mobile alone hopes to begin 2017 with over half a billion 4G subscribers.

Global telecoms subscriptions

Per 100 people



The top twosome of smartphones, Apple and Samsung, will be under-terred. Might Apple's iPhone 8 discard the home button (gasp) in favour of an edge-to-edge display? Samsung wants to put its combustible Galaxy 7 phones

behind it, hoping to generate (metaphorical) heat with its Galaxy S8. Yet worthy Chinese adversaries are rising fast. If Oppo maintains its current 60% output increases, by 2017 it could join the world number three, Huawei, in churning out over 100m phones a year.

Partnerships will push towards 5G. Official standards are years away but Sweden's Ericsson says it has agreements with 26 telecoms carriers to deploy 5G, and the components will be ready by 2017. South Korea's SK Telecom plans to launch a trial 5G service using technology made with Nokia and capable of speeds of 19.1Gbps—like downloading a movie in a few seconds.

Travel and tourism



Tourism spending is set to increase by 4% in 2017, surpassing \$5trn. Low fuel prices will help airlines everywhere. Competition will soar, especially in Asia, pulling down airfares there by 1%, according to the Global Business Travel Association and Carlson Wagonlit Travel, a consultancy. Rivalry is particularly ferocious between budget players in South-East Asia, where carriers like VietJet are expanding quickly. China's big three state airlines will need to hire 100 pilots a week to fly their expanding fleets, Bloomberg reports.

The arrival of super-efficient jets is opening up the new battleground of "ultra-long-haul" flights. Qantas hopes to start flying the almost 14,500km between London and Perth from 2017. The economics of such lengthy journeys remains to be proved. Particularly in Europe, airlines will worry about terrorism in 2017: statistically a tiny safety risk, its power to scare off fliers is outsized.

Entrepreneurs are queuing up to conquer space for commerce. A big symbolic achievement would come if America's Moon Express or Israel's SpaceIL lands safely on the Moon by December 31st, thus nabbing Google's Lunar XPRIZE.

TO WATCH: Your plane or mine? Tourism offers many opportunities for the "sharing economy", with more to come. eMarketer expects 14.5m users of lodging services like Airbnb in 2017, up by 15.5% from a year earlier. Even yachts and private aircraft will be pooled via an array of apps: one, Jet Smarter, talks of moving into Asia in 2017. The ever-expanding ranks of Asia's millionaires aspire to own private jets, and flight-hailing companies hope they will share them.