

# Ivent Solutions Market Trend Update

## August 2022

### Ports of Auckland (POAL) and Shipping Update

Auckland port has shown signs of considerable improvement over the last few weeks. Delays are down to 3-4 days at POAL with delays of only 1 to 2 days at LYT, NPE and TRG. As has been widely reported POAL has abandoned their automation project due in part, to the recent death of a port worker and another recent close call. The total cost to write the project off was costed at NZD65M, not including the investment already made in the doomed software/hardware package. All other NZ ports and airports are operating well despite being affected by the recent wild weather and the ongoing resurgence in Covid cases.

China is also showing some signs of improvement as evidenced below:

- Shanghai Vessel berthing delay is now about 3 to 4 days.
- Volumes ex-Ningbo are surging due to the Shanghai volumes switching, thus causing some equipment shortages. Subsequently we are seeing 2 to 3 days delay.
- The Hong Kong port situation is considered normal at present. Wait times for berthing are usually only 1 day.
- The number of ships waiting outside Chinese ports has nearly doubled due to ongoing lockdowns in China (as the CCP continues with its elimination policy).
- Dangerous goods are still problematic to ship out of China. This is due to oversubscription of ship capacities meaning shipments such as DG's, which are more complex to handle, are being offloaded. This is causing erratic shipping leadtimes and delays.



Ivent Solutions

**15**  
Year  
Anniversary

 **ivent**

# Ivent Solutions Market Trend Update

## August 2022

### China's zero-COVID Policy

China's zero-COVID-19 policy has had profound impacts on global supply chains due to the large-scale lockdowns of major cities. COVID-19-related restrictions have also caused a severe decline in China's manufacturing capacity, logistics and human mobility, as well as business and consumer confidence.

As we all know China is a major supplier of a variety of commodity goods, intermediate goods for manufacturing (such as electronic components) and consumer goods. The loss of its manufacturing and logistics capacity has contributed to an ongoing shortage of supply in interdependent global markets, intensifying worldwide inflation and economic damage. The wave of Omicron infections that led to a 70-day-long lockdown of Shanghai, China's economic powerhouse, also caused unprecedented supply chain disruptions. Shanghai is not only an industrial hub but also lies at the centre of the Yangtze Delta Region. Most of the cities and towns in this region make up an interwoven supply chain network that funnels out overseas via Shanghai's seaports and airports.

Faced with intensified economic, political and social challenges, China has recently signaled a policy shift by modestly and incrementally easing its lockdowns. While this shift does not mean that China has abandoned the zero-COVID-19 policy, it does possibly suggest that the policy will be gradually relaxed and implemented in a more balanced way. If this is the case, it does provide local New Zealand manufacturers more confidence in the supply chain out of China.

There are multiple reasons to believe that China is adjusting its zero-COVID-19 policy.

- The zero-COVID-19 policy has resulted in huge economic and social costs for China and its people. It has not only endangered China's economic growth target rate of 5.5 per cent for 2022, but it has also increased the risk of social unrest (associated with the implementation of strict control and monitoring measures). The policy is estimated to continue to reduce China's national GDP if it remains unchanged, so relaxing the rigidity of the restrictions is in China's own interest.
- China has also introduced two new policy terms into its COVID-19 lexicon — "*dynamic zero-COVID-19*" and "*zero-COVID-19 at community level*". In contrast with the strict zero-COVID-19 policy, these comparatively softer terms mean halting community transmission to an acceptable level and provides justification for easing the existing intensity of COVID-19 controls. This policy adjustment helps strike a balance between combating COVID-19 and pursuing economic resilience and growth, further demonstrating China's policy shift.

Ivent Solutions

15  
Year  
Anniversary





# Ivent Solutions Market Trend Update

## August 2022



- Since April 2022 China's approach to dealing with COVID-19 transmission in Beijing has not been as rigid as the restrictions put in place in Shanghai. Given that Beijing is the only city comparable to Shanghai in terms of economic weight, a plausible explanation for the policy adjustment is that the authorities have acquired a new attitude towards COVID-19 control and its ongoing economic impact.
- The policy shift is reflected in new efforts by the central authority to manage the tendency of some local governments to overreact to new case numbers under the zero-COVID-19 policy. Some local officials have reportedly been reprimanded for imposing disproportionately restrictive measures.

Unless there is an imminent risk of uncontrollable COVID-19 spread, China's increasingly balanced attitude towards COVID-19 restrictions is likely to be sustained. As discussed earlier, China's policy shift can provide some respite from the global supply chain crisis. While the Shanghai lockdown was an extreme case of China's zero-COVID-19 policy, COVID-19 controls in many other cities are now showing to be less rigid. For example, The Pearl River Delta Region, China's other major economic centre, has only been subjected to a partial lockdown. Here the zero-COVID-19 policy was implemented without inflicting a serious blow to global supply chains.

China has also simultaneously rolled out policies that emphasize the need to protect the stability of supply chains. A "White List" of entities has been created and is adjusted from time to time to ensure that the major players in supply chains can steadily restore manufacturing capacity. As the zero-COVID-19 policy is being relaxed nationwide, one can be optimistic about China's commitments and ability to gradually restore its manufacturing and logistics capacity, necessary for maintaining local and global supplies.

Ivent Solutions

15  
Year  
Anniversary



# Ivent Solutions Market Trend Update

## August 2022

### Lithium Update

Lithium, the highly reactive silver-white metal that is a crucial ingredient in batteries used in electric vehicles (EVs), is becoming much more expensive – and fast. In April, as prices hit a record \$78,000 a tonne, Tesla CEO Elon Musk floated the idea of the electric carmaker mining and refining the lightweight metal itself due to the “insane” increase in costs. Although pricing has stabilized in recent times, it is very much in our interest to closely monitor this market.

For governments ranging from China, to the European Union, that have all pledged to phase out combustion engines in the near future, the soaring cost and growing scarcity of the metal raise questions about how they will meet their deadlines... many of which come due as soon as 2035! With combustion engines accounting for one-quarter of carbon emissions (according to the United Nations) a delay in transitioning away from petrol and diesel cars would deal a serious blow to efforts to reduce carbon emissions and avert the worst effects of climate change. As Elon Musk has said, “lithium will be the limiting factor”. Joe Lowry, an expert on the global lithium market and the founder of Global Lithium LLC, confirmed Musk’s comment saying, “It is very simple math”. Despite retreating from its April highs, the price of Lithium has jumped more than 600 percent since the start of the year, from about \$10,000 per metric tonne in January to \$62,000 in June, according to Benchmark Market Intelligence.

The soaring prices have been driven by surging demand for light-duty EVs, sales of which doubled to 6.3 million units last year and are projected to hit 26.7 million units by 2030 (according to Platts Analytics). A growing appetite for lithium from manufacturers of energy storage and 5G devices, spacecraft, submarines, and safety and cooling equipment has further put the squeeze on supply. FastMarkets (a commodity price reporting agency), has projected that lithium supplies could altogether collapse relative to demand as soon as 2026. After years of falling prices, EVs are becoming more expensive, reversing a trend that had the environmentally-friendly vehicles on track to soon be cost competitive against gasoline-powered cars. Tesla has raised its prices by more than 20 percent since last year, putting its vehicles out of reach of millions of potential buyers.



Ivent Solutions

**15**  
Year  
Anniversary

 **ivent**



# Ivent Solutions Market Trend Update

## August 2022

“The main takeaway here is that the EV market faces many decades of strong, compound growth,” FastMarkets said in its most recent lithium report. “For any supply chain that relies on getting raw materials out of the ground, it is going to be a supreme challenge to keep up with year after year of high compound growth.” Lithium production will need to quadruple by 2030 to keep up with expected demand, according to FastMarkets.

### Mines in the pipeline:

The lead time of three to seven years for new lithium mines and evaporation ponds to become productive means that any additional supply is likely to come from Australia, the world’s leading producer. Two enormous new mines are already in the pipeline in Western Australia, the lithium mining capital of the world, and on the Cox Peninsula, near Darwin, where exploratory drillers have found 7.4 million tonnes of lithium concentrate – just shy of the 7.9 million tonnes of proven reserves in the United States. China, the world’s largest EV market, is also ramping up production. Despite holding only 5.1 million tonnes, or 7 percent, of the world’s proven lithium reserves, China is now the fourth-largest producer, the number one refiner of processed lithium and the number one maker of lithium batteries, according to energy consultancy BloombergNEF.

Despite holding out the promise of a low-emissions future, lithium production itself comes with eye-watering environmental costs. More than 2.2 million litres of water is needed to mine one tonne of the metal, according to Fairfield Market Research. Extracting the metal is also associated with the release of borax, potassium, and manganese into local water supplies. From Chile to Serbia, conflict has erupted between miners and people who live near lithium deposits. In North Carolina, residents in the town of Cherryville have railed against plans by Australia-based Piedmont Lithium to open a lithium mine, pointing to unsightly scars left in the landscape by previous miners during the 1950s.

Lithium mines in the Democratic Republic of Congo have become notorious for using child labour, while Amnesty International has documented violations of Indigenous rights by lithium miners in Argentina. The looming lithium crisis has also unleashed a wave of resource nationalism, particularly in the lithium “triangle” of South America consisting of Argentina, Bolivia and Chile, which holds 60 percent of known reserves, according to the US Geological Survey. Bolivia’s socialist government is hamstringing foreign investment in its vast reserves, which are the largest on earth. Stricter licensing requirements and nationalization of water resources are on the cards in Chile, while Mexico is considering nationalizing its lithium deposits.

Ivent Solutions

**15**  
Year  
Anniversary



# Ivent Solutions Market Trend Update

## August 2022

Wealthier lithium-producing countries are hedging their bets by investing in technological innovations and lithium alternatives. In Canada, Salient Energy has touted its zinc-ion battery as the equal to lithium-ion cells and easier to supply. Researchers at the University of Houston have used a high-energy ball milling process to create electrolytes using sodium-sulphur batteries that could be a viable alternative to lithium-based batteries for grid-level energy storage systems. At the US Department of Energy's Pacific Northwest National Laboratory, scientists are stress-testing a new technology that uses magnetic nanoparticles to capture critical materials like lithium from wastewater.

Preliminary results suggest if just a quarter of the lithium in water pumped in oil and gas extraction in North America is collected, it would equal all the lithium mined globally last year. In Australia, Canada's Graphene Manufacturing Group and The University of Queensland have used graphene, a carbon material, to develop a faster-charging and more sustainable lithium battery that lasts up to three times longer. "This project has real potential to provide the market with a more environmentally friendly and efficient alternative [than lithium]," Dean Moss, head of UniQuest, the university's commercialization company, said in a statement. Matthew Hill, deputy head of chemical and biological engineering at Monash University, said that while helpful, such innovations are unlikely to replace lithium completely. "Different energy storage solutions will find different niches. Things like sodium will be part of the solution but can only operate at elevated temperatures," Hill said. "There are plenty of applications where it is not possible to have a battery running at 130C. Cobalt, which is half the cost of an EV battery, is also mined in areas with child labour concerns.



Ivent Solutions

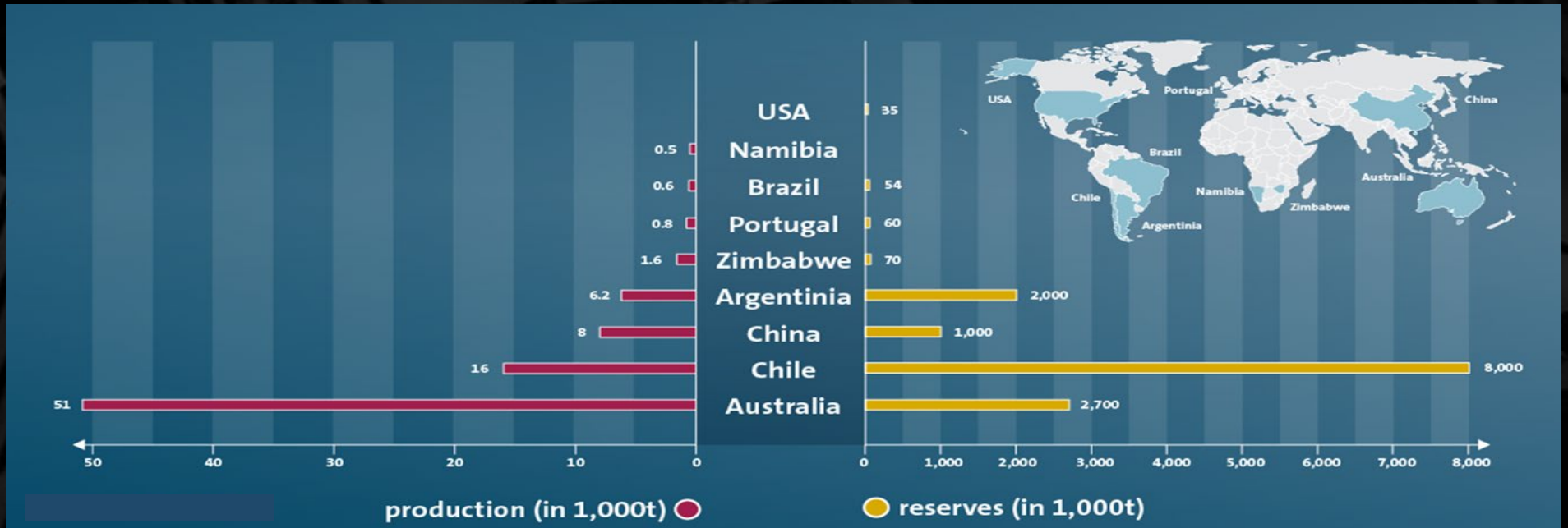
**15**  
Year  
Anniversary



# Ivent Solutions Market Trend Update

## August 2022

These are common themes through all battery chemistry – there are advantages and disadvantages for different solutions, which is why there isn't going to be an 'either-or' solution. But for any application where weight is important, lithium is impossible to beat." Hill believes recycling is the only way to solve the lithium crunch, pointing to the widespread use of recycled lead-acid car batteries. "It is definitely harder as there are more metals to separate. But it is not impossible. The challenge will be about making it economical. It's not just a scientific issue. It's an industrial issue, too," he said. "Demand for lithium is not going to disappear any time soon. We are going into a commodity super-cycle as we electrify everything. So, we're going to have to find a balance between the environmental damage of mining lithium, compared to the environmental damage of putting more carbon into the air."



Ivent Solutions

**15**  
Year  
Anniversary



Lithium

1D



Lithium Carbonate (CNY/T) 476500.0000000

550000

500000

476500

450000

400000

350000

300000

250000

200000

150000

100000

Sep

Nov

2022

Mar

May

Jul



1Y 5Y All

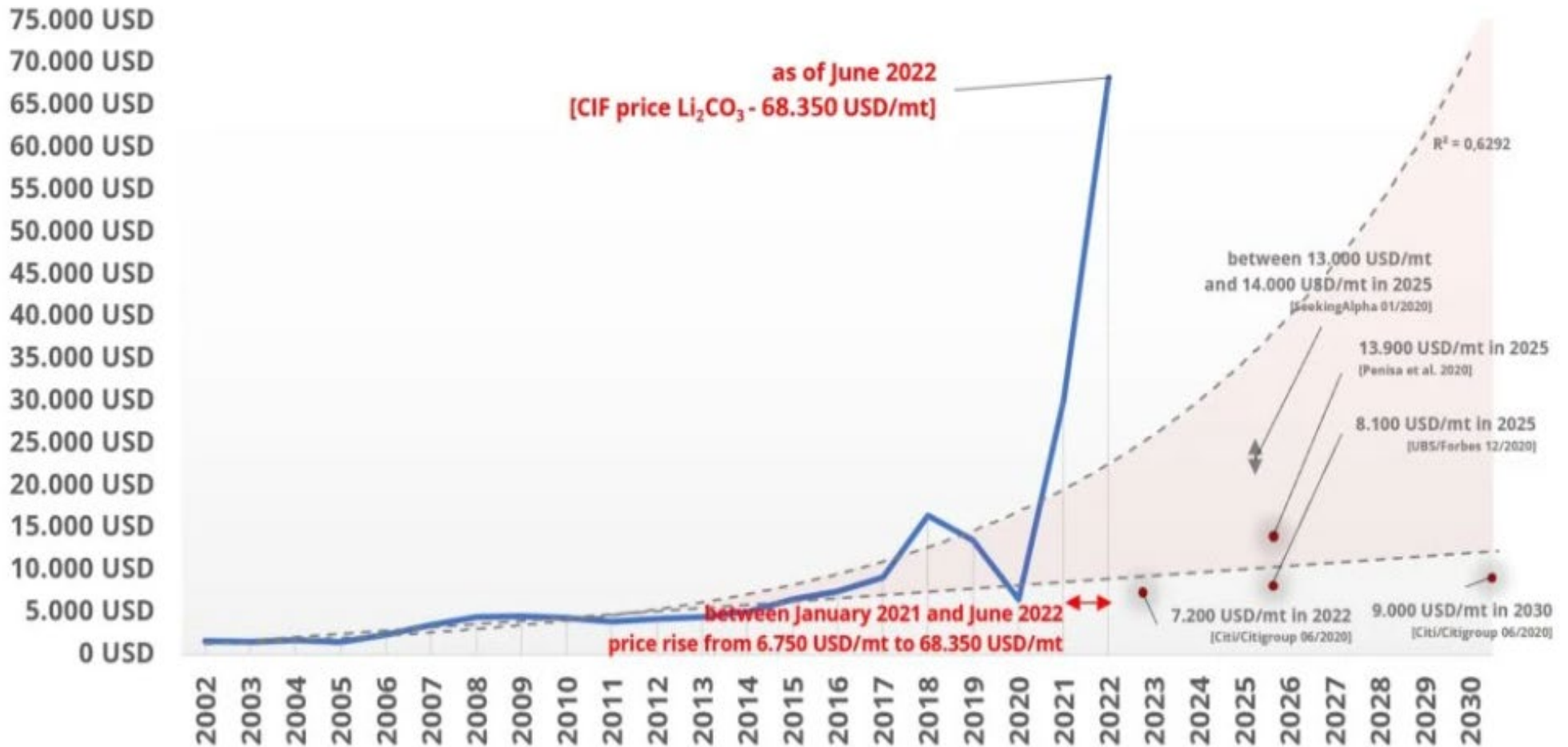
Ivent Solutions

15  
Year  
Anniversary





# Lithium Pricing versus Forecast Pricing – 2002-2030



Ivent Solutions

15  
Year  
Anniversary



# Ivent Solutions Market Trend Update

## August 2022

**NZD versus AUD - AU\$0.905 vs NZ\$1.00** —



**NZD versus USD - US\$0.625 vs NZ\$1.00** ↑



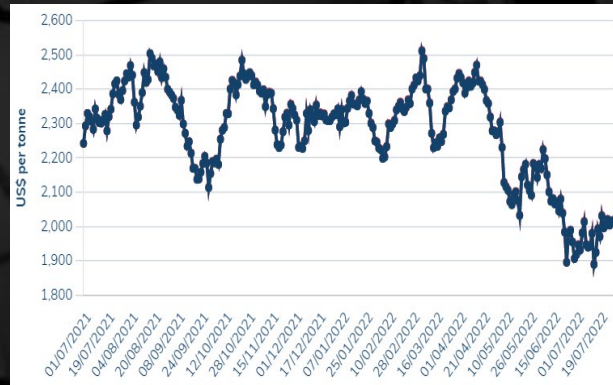
**NZD versus EUR - EU\$0.615 vs. NZ\$1.00** ↑



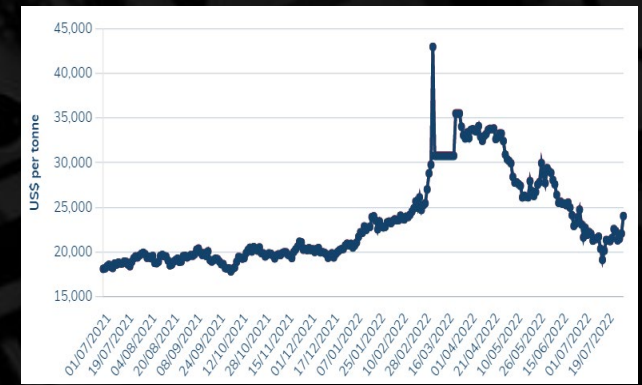
**Copper - USD8000 / tonne** —



**Lead - USD2055 / tonne** ↑



**Nickel - USD24000 / tonne** ↑





**KEEP CALM**



**AND BREATHE, NEW ZEALAND**

imgflip.com

**AND THAT, CLASS**



@grumpy\_memesofficial

**IS HOW YOU BEAT THE ALL BLACKS**

**90 MINUTES OF PRETENDING YOU'RE HURT**



**80 MINUTES OF PRETENDING YOU'RE NOT**



**YES....MY LORDS!!**

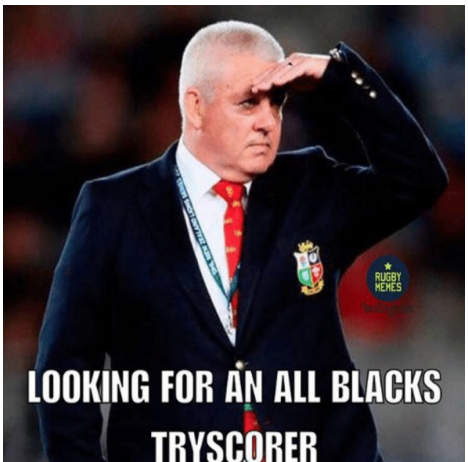


**Almost a flash of brilliance from Anton Lienert-Brown...**



THANKS A LOT FOR THIS PLEASANT AND COURTEOUS GAME...

THE PLEASURE IS MINE...



**LOOKING FOR AN ALL BLACKS TRYSCORER**



**LITTLE SQUIRT RUGBY HALF-BACKS**

**ARE CHEEKIER SINCE RUNCING GOT BANNED**

imgflip.com



# This Month in Tech History...

August 2, 1873 – The Clay Street Railroad begins operation, making it the first cable car in San Francisco's now famous cable car system.

August 9, 1898 – The US Patent Office awards patent number 608,845 to Rudolf Diesel, for his diesel internal combustion engine.

August 12, 1960 – Echo 1, the world's first communication satellite is launched. Technically, Echo 1 was a passive reflector, as communication signals were bounced off it rather than retransmitted as modern satellites do today.

August 25, 1991 – Linus Torvalds posts a message to the Internet newsgroup comp.os.minix with the subject line "What would you like to see most in minix?" This is the first announcement that he is working on an operating system that would one day become Linux.

August 16, 1995 – Microsoft introduces Internet Explorer, which at the time was a modified version of Spyglass Mosaic, which Microsoft had licensed. Later when Microsoft began including Internet Explorer for free with Windows, Spyglass sued Microsoft for not paying what they felt were the proper royalties. Microsoft settled for \$8 million.

August 27, 2003 – The city of Fairbanks, Alaska connected to what was at the time the world's largest battery backup. Designed to help prevent serious blackouts that plagued the city every two to three years, the batteries could provide power to the city for a few minutes – enough time to start up the city's backup diesel generators. The battery contains 13,760 cells covering more than 10,000 square feet. It was reported that in the first two years of operation, the battery system prevented at least 81 power failures.

August 14, 2006 – Dell and Sony admit that flaws in Sony-manufactured batteries used in certain Dell laptops could result in the batteries overheating, catching fire, or exploding. They recall over 4.1 million batteries, the largest computer-related recall in history. This came after several widely publicized reports in the preceding months where Dell laptops did catch fire. Still to this day, Dell's reputation has never fully recovered from the incident.

August 4, 2007 – NASA launches the Mars Phoenix lander. Phoenix would become the first spacecraft to land on the Martian arctic surface. Its mission was to dig for ice and assess if the Martian arctic ever had conditions that could have supported life.

August 24, 2011 – "I have always said if there ever came a day when I could no longer meet my duties and expectations as Apple's CEO, I would be the first to let you know. Unfortunately, that day has come". Apple CEO Steve Jobs resigns amid rumors of failing health. Jobs passed away just 43 days later...

Ivent Solutions

15  
Year  
Anniversary





# CHINA HOLIDAYS 2022



## JANUARY

						01
02	03	04	05	06	07	08
09	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## FEBRUARY

Chinese New Year

		01	02	03	04	05
	06	07	08	09	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

Lantern Festival

## MARCH

		01	02	03	04	05
06	07	08	09	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

## APRIL

Qingming Festival

						01	02
	03	04	05	06	07	08	09
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	

## MAY

May Day

	01	02	03	04	05	06	07
08	09	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					

## JUNE

Dragon Boat Festival

						01	02
	03	04					
05	06	07	08	09	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			

## JULY

							01	02
03	04	05	06	07	08	09		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31								

## AUGUST

		01	02	03	04	05	06
07	08	09	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				

## SEPTEMBER

Mid-Autumn Festival

						01	02	03
	04	05	06	07	08	09	10	
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30			

## OCTOBER

National Day (Golden Week)

								01
	02	03	04	05	06	07	08	
09	10	11	12	13	14	15		
16	17	18	19	20	21	22		
23	24	25	26	27	28	29		
30	31							

## NOVEMBER

						01	02	03	04	05
06	07	08	09	10	11	12				
13	14	15	16	17	18	19				
20	21	22	23	24	25	26				
27	28	29	30							

## DECEMBER

								01	02	03
	04	05	06	07	08	09	10			
11	12	13	14	15	16	17				
18	19	20	21	22	23	24				
25	26	27	28	29	30	31				

Ivent Solutions

