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30th March 2011

The fresh face of BMW: 50 years of BMW New Class

Waiting times averaged around half an hour. That's how long you had to queue up at the 1961 Frankfurt International Motor Show (IAA) to get a close-up look at the star turn of the show – or indeed to sit inside it, if for no more than a hurried minute. “Anyone who was in the vast exhibition area, for whatever reason, felt drawn to the stand of the Bayerische Motoren Werke,” noted reporters from a leading German magazine, “or to be precise, to the new BMW mid-range car which until then had been a closely guarded internal secret but was now on public view for the first time at the BMW stand.”

BMW 1500 celebrates its world premiere.

Resplendent in virginal white, one of the two prototypes of the mid-range car from Munich slowly rotated on a closed-off turntable. A few metres away stood its twin, inviting visitors to touch it and even sit behind the wheel. Anyone who managed to secure a spot in front of the adjacent knee-high barrier had an unhampered view of the impressive four-door model performing its slow-motion pirouettes. A flat panel under the front bumper gave a brief summary of its salient cutting-edge specifications: 4 cylinders in-line, 75 hp at 5,500 rpm, 5-bearing crankshaft, OHC, front strut suspension, rear semi-trailing arm, front disc brakes, top speed 150 km/h, weight (fully fuelled) approx. 950 kg. Not even the strikingly elegant eight-cylinder 3200 CS Coupé alongside it, revealed to the public for the first time, could detract from the sheer magnetic pull of this new model.

In no time at all the new BMW had emerged as the ultimate “mid-range dream car” for the 950,000 or so visitors to the 40th IAA – marking a record attendance and furnishing impressive proof of the burgeoning interest in cars among the population at large. More than that, the motoring world likewise credited this BMW debutant with excellent future prospects. “The BMW 1500 really has a great deal to offer that makes it stand out from the crowd of 1.5-litre cars and lends it that aura of technical exclusivity which for so many people is summed up by the three letters BMW,” wrote Germany's leading motoring magazine. The four-door model was equally compelling for its clean, uncluttered, modern lines:

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“It is a visual feast in the gallery of saloons. But we would hope that this most beautiful of production saloons will one day also be on sale at the stated price.” BMW had quoted 8,500 deutschmarks as the anticipated cost of the 1500 – good value, but far from cheap.

The new car couldn't have timed its arrival better. Average incomes in Germany – initially the main target market for the BMW 1500 – were rising by some ten per cent annually in the early 1960s and stood at DM 6,723 in 1961. In that year the number of new car registrations in Germany crossed the one million threshold for the first time. Along with climbing incomes, there was also a rise in the demands made on cars – which BMW was unable to meet with its existing model range. Between the conservative eight-cylinder saloon – popularly dubbed the “Baroque Angel” – and the agile 700 series small car, there was nothing to offer the aspiring middle classes. At the same time, an ongoing restructuring process was taking place within the individual automotive classes. Up to 1958 the microcar category, for example, which included BMW with its Isetta, was steadily expanding. At the same rate as this vehicle class subsequently diminished in significance, registrations in the lower mid-range – which included the BMW 700 – were on the rise. Added to this, the Borgward Isabella premium model had left a gap in the medium range when the Bremen-based car factory announced it was filing for bankruptcy just a few weeks before the IAA. It was BMW's clear intention that the 1500 should largely plug the gap which Borgward was leaving after posting sales figures of more than 4,000 units in 1961.

1960: increase in capital generated financing for development and production.

On the other hand, though, this brand-new model was also a huge gamble. In 1959, BMW itself had come within a whisker of bankruptcy and having to sell out to Daimler-Benz before being rescued by its majority shareholder Herbert Quandt.



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BMW's image ambassador flagships – the BMW 503 and 507 – had been phased out in 1959, but this did not free up sufficient capacity for high-volume production of a new vehicle. And so it was decided to build a completely new factory hall at the Munich-Milbertshofen plant where the new “middle-class car” – its original internal description – was to be constructed. To raise the necessary capital, BMW's equity was initially reduced from 30 million to 22.5 million marks in 1960 and then raised to 60 million marks. That secured the necessary means for both the plant and development work. The sense of a new era dawning was tempered by certain reservations, as a media comment at the time revealed: “The plant may be out of the red, but whether it has already won the game will only be confirmed if the BMW 1500 now on show in Frankfurt actually goes into production and sells.”

The development engineers in Munich pulled out all the stops to keep to the schedule, which stipulated a market launch in the summer of 1962. After all, the first customers had already signed contracts during the IAA stating delivery in the “second half of 1962”. “We firmly expect to be building the pilot series in June of next year,” promised Paul Hahnemann, the head of sales at the time, shortly after the Frankfurt Show. “Production is then scheduled to start in July.” The intervening period was rife with rumour. In April 1962 an impatient headline – “When will the BMW 1500 be out?” – preceded a claim that series production would not start up until August 1962, when the plant reopened after its holiday closure, while pessimists were already banking on a price hike to 10,000 marks.

In fact, the project ran almost exactly to schedule. By early June 1962, advance orders had already swelled to around 25,000. BMW's press department invited auto journalists from Germany and abroad to Rottach on Bavaria's Tegernsee lake for the first test-drives with the 1500:



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“We’ve made it: the final soundings on design development have been completed, the tough, tiring endurance tests on motorways and minor roads of all quality levels have corroborated the deliberations and calculations of the designers, and in Milbertshofen a new, impressive state-of-the-art steel structure has been specially built as a production hall for series production of the BMW 1500.”

Design with Giovanni Michelotti’s signature.

Lined up for the journalists was the forerunner of the so-called “Neue Klasse” – “New Class” – that would finally secure BMW the breakthrough as a producer of globally desirable modern automobiles. Its spacious four-door body featured lines that dispensed with any stylistic excesses; indeed, it was so subtle and transparent in its streamlined form that it would endure for a very long time. The design was neither conservative nor influenced by American style – it was more reminiscent of Italian cars. Which was hardly surprising: when developing the design of the 1500, BMW’s chief stylist Wilhelm Hofmeister had sought the advice of Giovanni Michelotti, who had already collaborated on the 700. Hofmeister’s team developed Michelotti’s draft through to completion, and so the car body bore Michelotti’s modern, unadorned lines along with a radiator grille panel harking back to the era of the 507.

When principal shareholder Herbert Quandt saw the finished design, it is said that he insisted the classic BMW twin kidney be reinstated. The designers rapidly put together a suitable kidney grille and placed it in the centre, coupling the twin kidneys with the horizontality of the radiator grille to create a new BMW face. From the 1500 on, the kidney grille was more ornamentation than key component, with the headlights taking on an ever more important role in design. Another detail made a “double debut” – on the BMW 3200 and the new mid-range car: the transition from the C-pillar to the car body was no longer round but featured a “kink”.



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At the outset this was down to perfectly prosaic reasons: the widened support base of the C-pillar was a result of the one-piece steel construction of the 1500 designed to exclude any potential weakness at the transition to the roof. As a tribute to design director Wilhelm Hofmeister, who had developed this form as a BMW styling cue, it became known years later as the “Hofmeister kink”.

80 hp four-cylinder with the latest engine technology.

Working away under the bonnet was an all-new 1.5-litre four-cylinder unit developed by BMW's engine guru Alexander von Falkenhausen. This was one of the components that had been palpably or visibly altered since the prototype marked its global debut at the IAA: instead of 75 hp at 5,500 rpm, as originally cited, the power unit now delivered 80 hp at 5,700 rpm thanks to an increase in the compression ratio from 1:8.2 to 1:8.8. The engine had originally been intended to run on standard petrol as well, but was now designed for super grade fuel. And that was good for a top speed of 150 km/h, an outstanding figure when viewed against its rivals. The same applied to acceleration, with the new BMW completing the sprint from standstill to 100 km/h in a sporty 16.8 seconds. Thanks to its streamlined shape, the car body offered relatively little wind resistance, which made for impressive fuel consumption figures: in the prescribed DIN measurement of fuel consumption at 110 km/h, the 1500 managed to undercut the ten-litre threshold by a tenth of a litre. BMW specified fuel consumption on the road as between nine and ten litres per 100 km. With a tank capacity of 53 litres, that was enough to cover a distance of more than 500 kilometres.

A raft of special features in the engine design showed it to be a highly advanced unit, and the company did not hold back in announcing future boosts in output: it offered every potential, they declared, “for keeping its performance up-to-date for the next ten years at least”. That this would prove true all the way to world championship-winning heights, nobody could of course anticipate at the time.



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When it made its debut the four-cylinder was the only German touring car racing engine in its class to feature an overhead camshaft and inclined valves in a V arrangement. The valves were slightly off-centre, which made for straight rocker arms subjected to minimal load. This valve arrangement allowed for the combustion chamber to be designed as a “swirl pan”. The fuel-air mixture passed through the chamber in a twist-flow motion, thus creating a turbulence which improves combustion and make the engine more economical.

Excellent engine charging was down to minimally curved intake ports and a sophisticated gas cycle on the inlet and exhaust side which was fine-tuned to reduce vibration. The pipe lengths ahead of the air filter housing and between the air filter and the carburettor were aligned extremely accurately both to the length of the fan-shaped intake pipe and to the volume of the intake silencer and the engine timing.

The five sets of bearings for the rigid and meticulously counter-balanced crankshaft ensured high running smoothness across the entire rev range, while its four-layer bearings broadened its dry-running characteristics. The grey-cast iron engine block featured water chambers between all the cylinders and extended down well below the crankshaft mid-point. Over the course of the engine’s subsequent development, this crankshaft proved so robust that it was able to withstand many times the loads it was originally designed to take.

With a stroke of 71 millimetres and a bore of 82 millimetres, the four-cylinder engine was designed as a modern short-stroke unit for the higher rev ranges. Yet it generated 98 Newton metres of torque over a broad bandwidth from 1,400 rpm to 5,700 rpm, with the curve peaking at 117 Newton metres. That placed it at the top of its class while also permitting lazy shifting thanks to its great flexibility. But in terms of gear spacing, the four-speed transmission was targeted at the sportier driver. It had four all-synchromesh gears that enabled fast, smooth shifting without the need for double-declutching.



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Innovative new chassis design with impressive reserves of talent.

The BMW engineers marshalled by development chief Fritz Fiedler and head of testing Eberhard Wolff also performed some ground-breaking work in the design of the chassis. This was the first time that a spring strut front axle had been combined with rear wheels using rocker arm suspension with such care that the roll axis – the imaginary line around which the body tilts when driving through corners – remained virtually horizontal even under varying loads. The BMW 1500 displayed a largely neutral steering tendency even under extremely dynamic cornering and with varying loads, allowing it to resist both understeer and oversteer. This chassis set-up was achieved in essence through the inclination of the front spring struts and the deployment of the rear wheel rocker arms in coordination with the spring characteristics.

“The terms understeer and oversteer lose their significance in this car,” BMW Director of Technical Sales Planning Helmut Werner Bönsch was quoted as saying in one major German news magazine. “Its fine roadholding has come about not by chance, but as a result of precise work by the engineers.” The research carried out by the BMW designers, the magazine continued, has put them in a position to “accurately identify around 130 of the 168 factors which affect a car’s roadholding, to establish their impact and, in so doing, to adjust the car’s handling characteristics to the desired effect.”

In order to more effectively exploit the potential available within the chassis, the BMW engineers increased the size of the standard production model’s wheels and brakes. A new tyre dimension was developed specially for the 1500. The result: low-profile tyres in size 6.00-14. A round-shoulder design and wide contact patch, coupled with a low height, ensured high lateral forces and therefore impressive stability through corners despite the soft tyre suspension. Another critical enhancement achieved through the switch from 13-inch to 14-inch rims lay in the scope for larger brakes.



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The exterior dimensions of the front fixed-calliper disc brakes duly increased from 238 mm to 268 mm, the diameter of the rear drum brakes from 230 mm to 250 mm.

Functional and practical body and equipment.

The car's body was built according to cutting-edge construction principles. Its structure was welded to the rigid floor assembly and, as a self-supporting all-steel body, formed a cell combining high bending strength and torsional stiffness with low weight. Inner door openings of 828 mm at the front and 726 mm at the rear revealed the importance attached to ease of entry. The individual front seats were contoured and given a bucket-like design in the lower section to provide lateral support around fast corners. With these features, and an additional transverse spring providing extra back disc support, the sporting future of the new model series had already been programmed in.

In the early 1960s, passive safety was still largely a foreign concept. However, the first key details could already be found in the new 1500. Screw connections were provided for all four seats to allow seat belts to be installed. The grippy two-spoke steering wheel had a padded impact plate, and the dashboard minimised reflections in the windscreen – as did the instruments set well back in the dark, padded dashboard. “Added to which,” continues the press clipping, “wherever you look you’ll see that ‘Aus gutem Grund ist alles rund’ – ‘things are circular (also means ‘going well’) for a reason’.”

The exceptionally efficient use of space in the interior was duplicated in the large boot area, which had a low rear panel to ease loading and a totally level floor to allow the space to be exploited to the full. Its 600-litre capacity allowed the luggage area to swallow up three normal-sized pieces of luggage, two smaller cases and a number of other bags with ease. The boot also had to be opened if you wanted to top up the fuel tank, as the filler cap was positioned under the boot lid on the right-hand wing.



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The bonnet rated as another special design feature of the car. In order to fundamentally rule out the possibility of the bonnet opening while on the move, it was front-hinged and held itself wide open.

Although BMW was unable to stick to its original price for the new 1500, the eventual rise was not quite as drastic as the scaremongers had feared. The company instructed dealers to quote a sale price of 9,485 marks, which included "all standard fittings without which the car cannot be delivered, such as the disc brakes, windscreen wash system, etc.," as Board member for sales Paul G. Hahnemann was keen to emphasise at the press launch.

A roundly positive reaction in press: "This car is worth the money"

The first road test reports provided a ringing endorsement of the initial enthusiasm. "This car is worth the money" led one drivers' journal, and gushed: "The BMW may be an off-the-peg garment, but it doesn't let it show; its workmanship would be a credit to any bespoke car manufacturer. Its body is a work of precision, its construction a genuine masterpiece." Their counterparts at Germany's leading car magazine warmed to the theme: "Two initial impressions from behind the wheel which are likely to strike anyone sitting in a BMW 1500 for the first time sum up this car: the agreeable seating position, offering excellent visibility, and the nimble handling which could almost lead you to believe you were driving something far smaller." The Italian press lauded the new mid-size BMW as a car with much competition in the four-cylinder saloon class, "but whose rivals cannot keep pace with it in terms of its completeness, the cutting-edge status of its design and its engine power." As a whole and in its details, the new kid on the block left French testers with an "excellent impression. Here we have a car whose makers have been careful not only to keep price as low as possible, but also to ensure satisfied owners over the long term."



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The development story: early projects were launched as early as 1953.

For the creators of the BMW 1500, the market launch of the new car represented the fulfilment of a long cherished dream. It had, after all, been a long and winding – not to mention, at times, rocky – road to get to this day in June 1961. Back in the early 1950s the company had been struck by the lack of a mid-size four-cylinder car to sit between the large six and eight-cylinder models on the top end of the range and the small single-cylinder and twin-cylinder variants at the opposite extreme. Although it was far from certain where the funds would be found to finance the project, development work got underway in 1953. Emerging from a pack of engine concepts as the leading candidates for a place under the bonnet were two four-cylinder powerplants derived directly from the celebrated aluminium V8 in the BMW 502 / 507. For the unit known internally by the codename M521V, the eight-cylinder was sliced in half crossways; for the M521R the cut was lengthways. This “partnership engines” concept was so named because of the potential for low development and manufacturing costs generated through component sharing with the V8. Although the 1955 engine failed to make the grade, let down by its unacceptable vibrations and running characteristics, the four-cylinder in-line engine concept in general was looking extremely promising. Mounted at a 45-degree angle, the V8 derivative soon became known as “Der schräge Otto” (“schräg” meaning “sloping”) within the factory walls, inspired by a popular film musical in Germany at the time. The 1.6-litre engine, which developed 62 hp in testing, was housed under a body later described by BMW Director Bönsch as “futuristic”. Rather than sloping down towards the tail of the car in conventional style, the rear screen was angled back towards the front, in a manner mimicked in subsequent years by a small French car.

By 1957 the process of further development had ruled out the idea of partnership engines as a viable option.



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The aluminium crankcase would have become too expensive and technical development revealed that a crossflow cylinder head with valves in a V arrangement and overhead camshaft would be necessary. The new engine was badged M530 and had an output of 75 – 80 hp. To house the engine the bodyshop developed a prototype BMW 530, a two or four-door saloon which shared a radiator design with the BMW 507 and whose trapezoidal lines lent it a strong likeness to the later 1500. Taking shape at the same time was an extremely elegant coupé boasting design references to the BMW 503 and an increase in engine capacity from 1.6 litres to 1900 cc to give a claimed output of 100 hp. The saloon and engine were scheduled to go into series production at the turn of the year 1958/1959, and the development process was duly wrapped up. However, with the financial situation becoming increasingly dire, a lack of resources forced BMW to pull the plug on the project in late 1958.

Starting again with a BMW 1300 prototype.

With the company's financial fortunes staging a revival, a mid-size car reappeared on the radar. The conception process was re-launched with a clean slate, which meant a re-evaluation of all existing engine concepts. As the project demanded a powerplant that was as lightweight and compact as possible, the leading candidate was a unit originally intended to power a small car. The 0.9-litre engine was plumped up into a 1,300 cc unit developing 65 hp in its grey-cast iron version and 62 hp in aluminium guise. It was given the designation M113, and the BMW 1300 prototype built in 1961 was therefore known as the BMW 113.

The 93-millimetre distance between the engine's cylinders meant the scope for enlarging the four-cylinder unit, if required, was limited. This distance was therefore increased to 100 millimetres, creating the M115 with capacity of 1,499 cc. The M115 was to become the forefather of all BMW four-cylinder engines produced up to 1990.



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And even the company's later, legendary six-cylinder in-line units inherited some of its characteristics, including the 100 millimetres between the cylinders.

The same dedication to perfection was shared by the body development experts in the design of the mid-size car from the wheels up. Stung by their experience with the BMW 530 – whose body possessed insufficient torsional stiffness to deliver the sporting capability desired – they conducted a series of load tests. One example involved fitting a BMW 700 with a high-performance engine and sending the test drivers out on a mission of speed. The small cars were hounded over motorways and country roads alike at up to 170 km/h until their bodies could take no more. The areas of weakness were subsequently remodelled and improved to the point where, rather than snapping under the loads, they would, at most, bend. All of which laid the foundations for the exemplary rigidity of the BMW 1500, recipient of such high praise after its launch in June 1962.

Lack of skilled workers causes quality issues.

Production of the 1500 began on schedule in September 1962, after the pre-production series of test and demonstration cars had rolled off the assembly line late that spring. Exports to Japan and the USA were also quickly up and running. However, the growing production numbers were accompanied by an increase in the fault count, due in part to the large number of unskilled personnel and “guest workers” employed by the company in the manufacturing halls to aid the rapid growth in production. Given considerable time pressure, there was no option but to train these employees “on the job” once production had already begun. It was not long before the public got wind of these shortcomings, which threatened to cause lasting damage to the reputation of the 1500 and of BMW as a whole.

This led production management to introduce a multi-layered system of quality control mid-way through the production run. By the middle of 1963 this had led to rapid improvements in the production quality of the cars.



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The 1500 saw BMW finally identify the missing link between the small and large cars in its model range. Where BMW had previously been goaded with taunts that it only made “cars for bank managers and day-labourers,” the new mid-size fulfilled its brief of appealing to a new customer base. While only 14 per cent of all BMW 700 and BMW LS customers were self-employed, 76 per cent of early orders for the BMW 1500 came from buyers with their own business.

The BMW 1800 turns the “neue Klasse” into the “Neue Klasse”.

It was not long after its introduction in 1962 that BMW advertising had billed the 1500 the “new class”. Its nickname initially had to make do with lower case, but stepped up to full block capital status a few months later and finally settled for the middle ground: “New Class” it was. BMW confidently argued that it had dreamt up a distinctive and unrivalled new class of car with its sporty new mid-size saloons. Clever marketing indeed, as the “only child” 1500 was to become part of a small family in autumn 1963; with the arrival of the BMW 1800 and 1800 ti at the IAA show in Frankfurt, the leading cars in the class were now also the smallest.

The concept for the BMW 1800 was a textbook exercise in modular construction. A longer stroke and larger bore gave the engine displacement of 1.8 litres and higher output – 90 hp, as it turned out. The body remained practically unchanged, but specification had certainly improved. From the outside the 1800 differed only in its nameplate and the addition of two chrome strips. In return for their DM 9,985, 500 marks than BMW asked for the 1500, customers were given a car that could sprint from 0 to 100 km/h in 13.2 seconds and hit 160 km/h. Its outstanding chassis needed no modification, having been designed from the outset to handle far higher speeds. Only the rubber-insulated fixed rear axle subframe was altered, two short supporting struts anchoring it even more securely to the floorpan. This was an additional safety feature, also included in the BMW 1500.



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Its greater performance earned the 1800 a Mastervac brake booster, which helped the actuating forces to be vastly reduced. The company's advertising at the time summed up what the new car was all about: "The BMW 1800 develops 90 horsepower. At 120 km/h it needs only 40 hp. The remaining 50 hp are on hand for accelerating, overtaking and driving at 160 km/h."

The car also boasted extensively updated fixtures and fittings. The backrests of the front seats in the 1500 were adjustable, but its big brother's seats also came with a reclining function. The colours of the seat and side panel trim reflected the new exterior paint shades and were available in a Skaiflor artificial leather / cloth combination or in Skaiflor only. There were two pockets in the front seat backrests to swallow up newspapers, maps and small items for the journey ahead. The rear-view mirror could be dimmed.

For the sporting driver: the BMW 1800 TI.

At the end of the day, though, the highlight of the new models on show at the 1963 IAA was the new BMW 1800 TI. The two letters stood for Turismo Internazionale and were added to denote one of the fastest and most successful racing touring cars of the 1960s. The 10,960-mark road-trim 1800 TI was aimed at "an international clientele looking for an extremely fast car with luxurious fixtures and fittings." The engine's compression ratio was raised to 1:9.5 for the New Class' sportiest representative yet, while two Solex twin-barrel carburetors – helped by a huge air filter – provided outstanding cylinder charge. Larger intake valves and stiffer valve springs, a camshaft with longer duration and higher cams teamed up with the other modifications to push the output of the 1.8-litre unit up to 110 hp at 5,800 rpm. Meanwhile, a heavily ribbed light-alloy oil sump – with larger five-litre capacity – ensured effective oil cooling.

A close-ratio sports transmission, whose first and fourth gear were only 1:2.819 apart, enabled an extremely sporty driving style. The steering ratio was also faster, allowing the driver to tackle high-speed corner sequences with even greater precision.



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The front anti-roll bar was backed up by a second item for the rear wheels, while the springs themselves were shorter and harnessed by stiffer shock absorbers. The 1800 TI displayed a breathtaking turn of speed for the time, sending the needle on the exceptionally clear circular speedometer spinning past the 100 km/h mark in just 11 seconds. Only at 170 km/h did the acceleration come to an end.

The “hot version” for serious drivers: the BMW 1800 TISA.

But that was not all. “For those dreaming of sporting glory and looking to take part in races or rallies, an even hotter version of the 1800 TI is also available,” BMW announced to prospective owners. This “special edition for competition” brought bucket seats for the driver and front passenger, stiffer front springs which lowered the car by six millimetres and stiffer or adjustable shock absorbers. Customers could choose between a four-speed gearbox with sport ratio and a five-speed transmission, as well as four different final drive ratios. Also included in the equipment list were a limited-slip differential, racing linings and additional cooling for the disc brakes, a tank holding 105 litres of fuel and an electric fuel pump. The racing tweaks also extended to the engine. Specially formed four-ring pistons raised the compression ratio to 1:10.5, and a camshaft with longer and higher cams operated larger inlet valves with stiffer valve springs. A supply point was planned to attach an additional oil cooler. The engine, whose power had been raised to 130 hp by the above upgrades, expelled its exhaust gases through a sports exhaust system. In 1965 BMW released a further developed motor sport version of the 1800 TI – in a small series limited to 200 examples – to comply with homologation requirements. It was christened 1800 TISA, the last two letters standing for “Sonderausführung” (special edition). The 13,500-mark machine was sold exclusively to licensed racing and sports drivers in Europe and the USA, and was capable of speeds of up to 192 km/h (depending on the car’s gearing).



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Assembly of the BMW 1800 began in November 1963, but it was not until spring 1964 that the BMW 1800 TI went into production. BMW lacked the capacity to deliver the New Class models in sufficient numbers to meet demand. As a result, it brought production of its large saloons to a halt in 1963; of the company's eight-cylinder model, only the 3200 CS survived the cull. "We were forced into this decision by the necessity to free up all available manufacturing capacity for mid-size car production," was the explanation given in the 1963 Annual Report. "Overseas exports had to be reigned in as we continued to limit our export quota due to the limited production capacity caused by the manpower shortage. The total export quota stood at 32.5%." The shift in emphasis to mid-size car production saw BMW's revenues grow significantly faster than the production numbers themselves, rising an impressive 47 per cent from their 1962 levels to 433 million marks. The New Class accounted for 46 per cent of that figure.

Motor sport icons of the 1960s: the 1800 TI and 2000 TI

While the BMW 1800 had soared to sales success in the blink of an eye, the 1800 TI was busy racking up a string of honours in race competition. The car's success was inextricably linked with the name of one man: Hubert Hahne. In 1964, his first year of competitive action with the new BMW touring car, Hahne established an easy domination over his rivals. He recorded 14 victories in 16 races on the way to being crowned German circuit racing champion. The Hahne/BMW double act was also the partnership to beat in endurance racing and the European touring car championship. For example, in 1964 Hahne swept to overall victory in the 12-hour race for touring cars at the Nürburgring. His fastest lap – the quickest of anyone – was clocked at 126.6 km/h, and his overall average speed stood at 120.9 km/h. However, his finest years were still to come. During a support race for the German Grand Prix on 6 August 1966, Hahne – driving the raised-capacity BMW 2000 Ti – became the first man to lap the Nürburgring-Nordschleife circuit in under ten minutes in a touring car. Indeed, his lap time of 9.58 minutes caused a genuine sensation.



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Then, in 1966, he teamed up with Jacky Ickx to win the 24-hour race at Spa-Francorchamps, and the pairing went on to secure second place at Snetterton, England.

In 1967 Helmut Bein won eight out of ten rounds of the German car rally championship in a BMW 1600 and ended the year champion in all classes. The 1968 Rallye Monte Carlo then saw the Bachmann/Strunz pairing drive their 2000 TI to victory in the class for production touring cars with up to 2-litre displacement. It was not only in touring car racing that the four-cylinder engine in the New Class proved to be a championship-winning recipe. First up came success in the Lola Formula 2 racing car, and over subsequent years the high-output BMW engines were all but unbeatable. This was an era characterised by countless BMW race wins and European championship titles.

However, it was to be over 20 years after it had first gone into production that the four-cylinder celebrated its crowning glory. In the early 1980s the expert team headed by engine guru Paul Rosche squeezed an incredible 800 hp from a 1.5-litre turbocharged power unit based on used engine blocks for an assault on the Formula One World Championship. Success duly followed in 1983 when Brazilian Nelson Piquet won the drivers' title in a Brabham BMW just 630 days after the engine's debut race.

A broad target group: from “woman’s car” to road-going sports car.

Rewind to 1964, and the new 1.8-litre models were basking in universal acclaim from customers and press alike. “There is also widespread consensus that this is the most effective and indeed the best everyday car the market currently has to offer,” commented observers of the 1800 at the time. The advertising for the car focused on its all-round qualities and presented the BMW 1800 as a model for the ladies as well under the strapline “A car not only for men”. “As well as the luxury and comfort of a large touring saloon, the BMW 1800 also offers the performance and driving properties of a true sports car.



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This is therefore a car that will be driven with equal enthusiasm by women and men – either in appreciation of its high comfort levels or for the sheer driving pleasure it provides." For the record, the elegantly attired lady in the advert was still standing next to the open passenger-side door.

The BMW 1800 TI, meanwhile, set about whipping up storms of excitement wherever it went. The road test headlines ranged from "Absolute world class" and "A proper driver's car for family men" to "A missile in sheep's clothing". "Anyone who knows anything about cars, who not only drives a car but can also judge the merits of one, and who likes to drive safely and unproblematically," read one Austrian article, "will agree that the BMW 1800 TI is one of the world's leading cars at this moment in time." The adverts painted a picture of the car as "a sports car for five" and, in 1965, whispered under the headline "Suspicious": "If you think a BMW 1500 has just overtaken you at 170 km/h, your eyes may in fact be deceiving you; it could well be a BMW 1800 TI 'in disguise'. Demand at 1500 levels indicates that there are a lot of them around."

By this time, though, the BMW 1500 was already a car from a previous era. In December 1964 production of the archetypal New Class model was brought to a halt. Its successor as entry-level model was the BMW 1600, which had been in production since spring 1964. Expanded to 1,573 cc, the four-cylinder engine – with its new carburettor – now developed 83 hp and was capable of 155 km/h. However, the 1.8-litre model remained the customers' favourite, prompting BMW to pull the 1600 back out of the range after two years in production.

1965: New Class production hits 100,000, the BMW 2000 celebrates its premiere.

On 18 August 1965, no more than four years after the start of production, the workforce celebrated the arrival of the 100,000th New Class car. And yet BMW still had one more card to play: the 2-litre version.



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Series production of the new range-topping model (100 hp, top speed: almost 170 km/h, price: 11,260 marks) duly got underway at the end of January 1966. Visually, the BMW 2000 stood out with its new face featuring rectangular headlights in place of circular items. A trim strip running all the way around the bonnet and flowing into the waistline lent emphasis to the new front end. Also newly designed, the rear came across as particularly broad and tidily arranged with its large-surface rear lights with four lamp chambers. The B-pillar was given chrome trim, allowing it to underscore the regal elegance of the 2-litre version. And, with its wood veneer dashboard, the interior of the four-door saloon added even more comfort-oriented details. The engine was a further development of the 1800, boasting a new combustion chamber geometry – the “sphere swirl pan” created out of the basic swirl pan. Plus, the 5-bearing crankshaft had eight counterweights instead of four, which ensured outstanding smoothness and impressively low vibrations.

The BMW 2000 stood apart from the lower-capacity models in more than its engine alone. The racing experience gained with the 1800 TI also led to extensive optimisation of the chassis. This knowledge from race competition was reflected in reinforced kingpins and front mountings, while the rear springs (moved closer to the centre of the wheel), modified rubber mounting for the rear axle subframe and new shock absorber tuning helped to enhance comfort.

Having enjoyed a positive experience with sporting variants of the 1800, BMW decided to offer a more focused version of the new touring saloon from the outset – the 2000 TI. A pair of twin-barrel carburettors took the place of the standard 2000’s four-barrel carburettor, and the compression ratio rose from 8.5 to 9.3. The result was another 20 hp, which gave the 2000 TI the muscle to deliver a top speed of 180 km/h. The TI saw BMW once again cultivating an understated feel, and it began life with the body design of the 1800.



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Only the model badge on the front grille and boot lid pointed to what was now the most powerful and – at 11,750 marks – also the most expensive road-going New Class model.

It quickly became clear that, although customers had developed a taste for the extra performance of the 2000 TI, they were not keen to forego the comfort and more imposing appearance of the basic 2-litre model. BMW quickly realised this and wasted no time in adding the 2000 tilux to the range in July 1966, its model designation presented in lower case for the first time. For a premium of exactly one thousand marks over the 2000 TI customers could now have the best of both worlds: Turismo Internazionale and luxury, neatly summed up in a single badge.

1969: one last major upgrade.

The most significant modifications in the 1969 model enhancement package were applied to the BMW 1800. The exterior tweaks immediately identified it as a 1969 model. The grille had a fresh look, its kidney element brought slightly further forward. The interior was given a complete refresh and made to comply with the more stringent safety standards stipulated in the US. Updates included a new, set-back three-spoke steering wheel with large impact plate and controls in an elastic material, which were now set into a recessed strip in the dashboard. And all the other levers, buttons, cranks and handles – not to mention the armrests – were now made of a more yielding material. Like the dashboard, the instrument cluster was also padded.

Under the bonnet was a new engine based on the block from the BMW 2000. The 2000's pistons gave the engine a 71-millimetre stroke and displacement of roughly 1.8 litres, from which the 1800 produced an unchanged output of 90 hp. The extremely short-stroke engine boasted impressive smoothness and increased output at higher revs. A step up in active safety, meanwhile, was provided by the new circuit braking with brake booster.



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The interior of the 2000 and 2000 tilux 2-litre models also benefited from the new safety-enhancing features and improved brakes.

A fitting finale: the BMW 2000 tii with fuel injection.

The most cutting-edge technology of all was showcased in the New Class' new flagship model introduced in 1969, the BMW 2000 tii. The second "i" stood for "injection" and announced the arrival of the most powerful (130 hp) four-door mid-size BMW on the scene. The powerplant was mounted underneath a body showing no changes from the tilux, and the chassis was also identical to its sister model.

The Kugelfischer mechanical fuel injection system had been tested successfully by BMW over the years in race action, developing output of 205 hp. And so it was a logical next step to transfer this technology to the standard-spec sporty BMW saloon for the first time with the aim of gradually building up its power output. In keeping with BMW's principle of controlled progress, the output of the 2-litre engine was boosted from 120 hp at 5,500 rpm to 130 hp at 5,800 rpm. Added to which, the increase in output was spread over the full rev range. Another ingredient in this power diet was a rise in the compression ratio from 9.3 to 10, a measure which could be carried out without fear of an increased knocking tendency thanks to the improved fuel distribution. Specific fuel consumption was around five to eight per cent lower across the rev range than that of the already economical four-barrel carburettor engine. Top speed was also up, from 180 km/h to 185 km/h, and a half a second was shaved off the 0 – 100 km/h time, which now stood at 10.4 seconds. However, what made driving with this BMW 2000 tii particularly pleasing was the lag-free acceleration; no other car could beat it for accelerator response. The direct injection system had celebrated an undeniably successful debut and was very soon also made available for the BMW 02 range.



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At 14,290 marks, customers would have to fork out a princely sum for the new range-topping model. But today, with fewer than 2,000 examples ever built, it is one of the most coveted New Class rarities. The flagship car was granted another three years in production before BMW brought the curtain down on the New Class generation with a total of 350,729 cars having left the factory. The mid-size range was succeeded in 1972 by the first BMW 5 Series, which continues the New Class success story into the future.

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