

BDB Construction(cost)data 2017



Dear reader,

We hope that this publication will give you inspiration and - who knows - give you some new ideas. Construction cost data no more holds any secrets for us, but this may not (yet) apply to you.

In this publication, some of our customers have a say: **such as a contractor, a consulting bureau and a knowledge centre.** You will read about their work and their vision. They also reflect on how they deploy and use BDB data in their work.

Besides interesting customer cases, as a specialist in construction cost data we also share our vision on the **future of the construction sector.** Moreover, we introduce our team member who you have spoken to most often by telephone.

And, last but not least: we have some special news to share with you. **In 2018, we will be migrating to a new information system.** You will read about its benefits and extras further on.

On behalf of the BDB team,

We hope you enjoy reading it!





‘The added value for us is that no emotions play a part in our building costs or our price increases. We can explain what we are doing.’

Berry van Loon is head of Calculations at **Van Wanrooij Construction & Development**. Because Van Wanrooij specifically builds single-family dwellings and flats, projects can be calculated ever more accurately. Van Loon is continuously improving his work and his department: *‘Every quarter, we have BDB create a project indicator for just one project.’*

>> Read the full interview on page 9 (±2:21 min.)



‘The BDB data is not an exact science of course. However, it does give direction. I see BDB as an important indicator, a sort of plumb line.’

John van der Born is financial project controller at **BAM Construction and Engineering** – Large Projects. Due to the scope of his projects and the current state of the market, he consults various different sources in order to anticipate opportunities and threats: *‘If you start in the present market without an index, you have a big problem.’*

>> Read the full interview on page 10 (±2:35 min.)

Vision on the future of the construction sector

Digital data as a lifebuoy?

All around me, I notice that digitisation is steadily progressing. For instance, I arrange my banking affairs via my mobile phone, from this year I can use the internet while on holiday without roaming costs and I read the news on my tablet (which a two year-old child can use with ease nowadays). In short: the world is becoming ever more digital.

At work, I also notice that digitisation is on the increase in the building sector. There is more and more information available, the complexity of building projects and building processes is on the increase and decisions have to be taken more quickly. To help deal with these trends, building organisations have been making more use of digital data over the years. In the mean time, digitisation has grown into one of the distinguishing features of an organisation. But the (already important) role played by digital data is changing.

All the evidence suggests that in the (near) future, digital data will be one of the benchmarks for an organisation's survival. Organisations that lag behind in this area, will exclude themselves from the market. For reassurance: every organisation has the necessary data already and is therefore sitting on the virtual gold of the future. Every organisation is also able to arrange this data and the associated processes properly. It is 'merely' a question of unlocking and sharing this data.

The crucial difference is in the application. Letting data do the work speeds up decision-making processes. Based on data, substantiated advice can be given about building-related issues. Consider in the initiation phase, estimating the risks involving wage and price developments or defining a favourable moment for tendering. Via numerous routes, digital data will also contribute to cost-effectiveness. The degree of direct implementation in an organisation's primary process will even further increase cost-efficiency, process acceleration and risk management. The challenge here is to retain substantiated and founded quality. It is of fundamental importance that the data is up to date, reliable and in line with the market. Also important is the level of detail of the data and how branch-specific the data is.

In short: the combination of data quality and the way in which the data is used, will define whether digital data will manifest itself as an organisation's 'lifebuoy'. The speed and complexity will only continue to increase in the future. Moreover, the focus will shift from reactive to proactive. In this context, each organisation will have to ask itself: *'Do I want to be in the driving seat, or in the back seat?'*

Ir. Ted Peek (General manager BDB)



‘Now we can financially validate a project in a fraction of the time. In principle, it makes no difference whether a project costs 50 thousand or 100 million euros. The report is ready within just one day. While it takes a contractor about six weeks to do, with about four men.’

Walter Fr  h   is senior cost consultant at **Arcadis**. Although through his years of experience, he often knows beforehand whether something can be done or not, he increasingly relies on construction cost data: *‘There is no added value in working everything out in detail on the bottom line.’*

>> Read the full interview on page 11 ( 2:34 min.)



‘We did not have much use for standard index figures, they apply to the whole building project. We were receiving figures for concrete and steel, while we were using prefab beams. We therefore asked BDB whether they could develop specific index figures for us.’

Willem Flier is technical director at **Groothuisbouw Emmeloord**. As a supplier of modular, detached houses, they are only involved with a select quantity of materials. *‘Now these figures enable us to focus better on individual subcontractors.’*

>> Read the full interview on page 12 ( 2:22 min.)

Sneak peek

We have news..!

In the near future, a number of special developments are being planned for BDB. We would like to take this opportunity of informing you of the positive changes that are awaiting not only us, but you too.

We have noticed that our customers and the market require broader, more accessible and immediately available (index) figures. In the past year, we have therefore implemented a number of improvements. The 'index figure model' has been made available on our website: this is a convenient tool which you as a customer can use to create your own index figures overview. The subscriptions have also been simplified, and each subscriber now has a benchmark in the field of design factors and key cost figures at his disposal. But we are not finished yet!

From January 2018, we will be migrating to a new data system. This will give you a far more user-friendly way of consulting our figures and indices on mijnbdb.nl. The graphs and tables will be interactive. If you as a customer have supplied data, it will also be possible to retrieve your own data in the system.

With the transition to this new system, we see an opportunity of further expanding our data. We have an

awful lot of data available already, but in our opinion it can always be done better, more extensively, more completely etc. **So you can look forward to the following in 2018:**

1. Our 'Construction costs module' will come online: you can use this to compare your own project with our benchmark data. You can fully adapt this indication to your project's specific situation and requirements.
2. Investment costs and exploitation costs will be added to the database.
3. Data and indices can be applied at an international level: for instance, to compare benchmarks for different countries.
4. Customers can import their own data into the database and use this to generate figures and indices specifically focused on their own company.

When this is ready, we will inform you through our website and with the email containing the monthly figures. Should you have any questions in the mean time, do not hesitate to let us know. We can hardly wait!



Introductions: the voice at the other end of the line

We consider personal contact to be important. That is why it is one of our three core values, together with 'complete' and 'customised'. We would therefore like to introduce you to **Annemarie Smith**. Annemarie has worked at BDB since 2012. She now knows all the ins and outs of construction cost data.

1. *How can customers know you?*

– I answer all substantive questions posed by customers via the telephone and email. This is my first priority. Every question is different, so there is enough variation and always a new challenge. Moreover, each month I compile the monthly and forecast figures and the project-specific indices in collaboration with the rest of the team.

2. *How do you help customers?*

– Not everyone is used to working with index figures on a daily basis. A large proportion of our customers does not know exactly which index is the most appropriate for their project. Often, customers simply want to consult what is their best option or how they should calculate using the figures. I like to help them along.

3. *What should customers certainly call you for?*

– For an index that fits in with their project! Why should materials and wage prices be charged that are totally inapplicable? While on the telephone, I often discover that customers do not always request the most appropriate information from us. That is a pity, because we have an index for every situation. An appropriate index can sometimes be an investment, but it usually pays itself back. Although additional costs are not always expected, we always hear from our customers in retrospect that it was worth the money.

4. *What is for you the challenge?*

– Customers often need the figures within a couple of hours. The challenge for me is to arrange that for them. Fortunately, we are able to switch rapidly and so it is usually successful.



'In practice, you could no longer build a school based on the existing VNG reference values, let alone a future-proof school. The BDB calculations confirm this.'

Marco van Zandwijk works at **Ruimte-OK**. His goal is to promote school housing quality. Among other things, Van Zandwijk has helped realise the Housing Quality Framework. This framework offers practical quality criteria for schools and local authorities. The associated financial substantiation initially met with incomprehension: *'The Quality Framework is however not just a wish list.'*

>> Read the full interview on page 13 (±2:48 min.)



'In our experience, building for healthcare is for some clients a one-off event. They have no expertise when they start, and once the building has been taken into use, they are no longer there. There is consequently not much knowledge development.'

Wim Meijer is deputy chairman of the **AcvZ Foundation**. To avoid high costs and incorrect decisions with healthcare building projects, he emphasises the importance of an independent assessment: *'You cannot return a building like that to the factory.'*

>> Read the full interview on page 14 (±2:44 min.)

We now have...

71 years

...of knowledge! (BDB has been operating since 1946)



50

daily visitors to the database



3.091.163

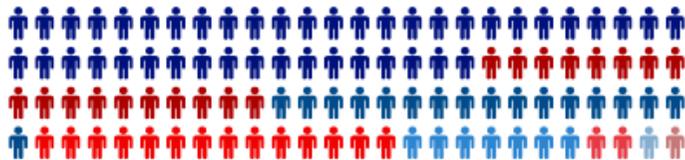
Generic index figures in the system



1.457.155.387.724.800.000.
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Possible answers for just one reference date
(or 1,5 trillion trillion)

More than enough for all our different customers!



- Contractors
- Advisers
- Public authorities
- Housing cooperatives
- Developers
- Architects
- Valuers/ Estate agents
- Banks/ Investors

We use our knowledge to help our customers daily with their work. Client, executive and advisory parties: our data provides an insight into the entire construction column. Here is a (random) sample of a number of our 1,500 customers.

Thank you for your cooperation!





Interview with Van Wanrooij: Structurally better and more accurate working

Berry van Loon is head of Calculations at Van Wanrooij Construction & Development; a construction firm and property developer that realises projects and also builds and develops for housing associations. Because Van Wanrooij specifically builds single-family dwellings and flats, projects can be calculated ever more accurately. Van Loon is continuously improving his work and his department. In doing so, he consults different types of construction cost data.

'First, I advise the property developer with an estimate based on a sketch plan or a preliminary design. Later on at the Calculation department, we draw up a detailed budget once a project has been offered for sale. When creating a budget, we always base this on a basic budget. The basic budget is fed with contracts and post-calculation data from completed projects; this means that we always work in the same way on a structural basis. When making an estimate, we approximate an index. The time of compiling a budget and starting with construction work is namely a lot further in the future. The indexed estimation, in combination with the updated (basic) budget, gives us a true picture of the construction costs and the price developments for the entire preliminary process. For us, the BDB indexes are therefore an important tool that we work with on a structural basis.'

'Every quarter, we have BDB create a project indicator for one specific representative project. Based on our project budget, we verify a project's price level in comparison with the rest of the market. This shows us whether our construction costs are competitive in the

'The added value for us is that no emotions play a part in our building costs or our price increases. We can explain what we are doing.'



Van Wanrooij Construction & Development in Geffen has four core activities: property development, commercial and residential property realisation, kitchen and bathroom sales and commercial real estate management. They develop and realise houses and flats in among others North Brabant, Gelderland and Utrecht. Since 2007, Van Wanrooij builds primarily according to the flexible OPTIO house concept.

market. The project indicator enables us to verify our construction costs on a structural basis.'

'We monitor the project indicator results in a model which includes our basic OPTIO housing types. We monitor namely all our own housing types ourselves. Once a year, we perform a post-calculation of our projects and we update all our sub-prices. So we have a large amount of data. Besides the project indicator, we receive structural and market figures from BDB. We also process these figures in this model's graph. We really use the BDB figures to verify our own figures.'

'The project indicator and the other figures also give us a tool for communicating with other parties, both internally and externally. I used to perform such calculations by hand, which were later discussed. The BDB index figure calculation model gives you a transparent argument towards other parties. Projects run structurally better: we are always able to maintain the right price level and to monitor price increases.'

'Nowadays, Van Wanrooij subcontracts a significant number of projects to other contractors. It demands a certain amount of trust when concluding such agreements. We simply want to create a credible price for both parties. That is why we make agreements based on BDB figures. The added value for us is that no emotions play a part in our building costs or our price increases. We can explain what we are doing.' •



Interview with BAM: View data and indices as important indicators

John van der Born is financial project controller at BAM Construction and Engineering – Large Projects. He is responsible for the financial project monitoring of projects in excess of 40 million euros, where construction and engineering are integrated. To give an outline: the last project that he worked on, was the renovation project in The Hague for the ministries of Foreign Affairs, of Infrastructure and the Environment and the COA (Central Agency for the Reception of Asylum Seekers).

‘These are often long-term and complex projects, involving huge financial interests. Consequently, one has to view things in a different way from work with a shorter lead time. It is my job to monitor developments closely, to focus permanently on the project’s final objective. As soon as we start up a project, we not only calculate a real case scenario, but also a best-case and a worst-case scenario. We ask ourselves what we can expect and what management measures we should implement. Large projects run for several years, so you will want to make a risk inventory.’

‘People often have some idea themselves, but sometimes that differs depending on whether that person is a purchaser or a tender manager. To be able to take well-founded decisions, we always look at several indicators. Each branch has some kind of index and building consultancy firms also have their ideas. However, you cannot apply them all. BDB is an authority in that area. It is clear and practical. We would sell ourselves short with an inferior index.’

‘There is a significant amount of movement in the market at the moment: you can see that the market is picking up. This also has an

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BAM Construction and Engineering realises housing solutions that are flexible in function, space and use. They offer a total range, from planning processes and construction to long-term exploitation and maintenance. BAM Construction and Engineering is a partner for a building’s entire life cycle.

effect on projects. One is confronted with shortages. It can be difficult to recruit professionals and it could well be that soon for instance, no more door or window frames will be available. With large projects, there is often two to three years between the time when a client defines his budget and the time that a project actually comes onto the market. The old price level is now no longer known. That has become a completely different picture. With an earlier project, we chose to create a project-specific index. Then you always have the most representative index available, because that is a weighted index of your budget.’

‘We do a lot of different things with the BDB data. In the tendering phase, we use the information to make arrangements with customers about the risk scheme. Once the project is up and running, we take intermediate measurements to the remaining residual risks. The figures are consulted for purchasing. This is also dealt with in collaboration with our subcontractors and other permanent partners. If you start in the present market without an index, you have a big problem.’

‘At the moment, BDB has recently been serving us with a Risk Indication Model. This modal predicts developments over several years. Standard indexes only say something about average price developments, but you do not get a real insight into where a possible opportunity or threat is. We use this model to take a deeper look at a project. It gives us a glimpse into possible future developments. ‘The BDB data is not an exact science of course. However, it does give direction. I see BDB as an important indicator, a sort of plumb line. You have to discover its benefits yourself.’ •



Interview met Arcadis: Relying on data for cost management 3.0

Walter Fr  h   is senior cost consultant at Arcadis. He gives customers an insight into costs, risks and choices. He does this at many different levels: architectural, civil engineering, installation engineering, interior, terrain and maintenance. Although through his years of experience, Fr  h   often knows beforehand whether something can be done or not, he relies on construction cost data for his work. 'We call it cost management 3.0: based on data, we calculate whether something falls within a certain bandwidth. Nowadays, there is only half as much time to work on something and the information flow has become so big, that it is no longer possible for a human to process it. For instance, a project has to be completed within a week, while you would need three weeks to read all the paperwork. You have to participate actively in cost management 3.0, otherwise you will be too expensive and you will not have enough time. There is no added value in working everything out in detail on the bottom line.'

'A unique application of cost management 3.0 can be seen in our work for the municipality of The Hague. We check a significant number of the building requests that are received by the local authority. To do this, we have linked our system to the BDB database. This means that construction cost data is always up to date. Now we can financially validate a project in a fraction of the time. In principle, it makes no difference whether a project costs 50 thousand or 100 million euros. The report is ready within just one day. While it takes a contractor about six weeks to do, with about four men. Although it is of course just

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Arcadis is a design and consultancy organisation. They design and give advice on the natural and urban environments. They also develop technical and financial solutions in the field of sustainability.

one project, it really consists of some 400 projects a year. These are very diverse: from a train station, to housebuilding, from city offices to a wind farm. It also includes existing buildings, which have been converted into another function. The BDB has cost indicators for everything.'

'We use a quick scan to demonstrate the issues for concern and why. If any objections are received, then the full estimate is still made. In the past years, we have been still been able to counter all objections. We have therefore invested more in the preliminary process, but in the long run it has cost the local authority less money and time. Our biggest asset is that we are able to validate it.'

'What BDB does very well, is that they do not follow all market fluctuations. They defined how to do the monitoring umpteen years ago, and they have managed to sustain that structurally. Once in a while they recalibrate their data. If you were to apply intermediate corrections, the figures would go awry. It is all about that continuous flow of reliable data. They also keep track of much more than just price changes and price levels in the market. They also include regulations and changes in standards in their construction cost data. So once you have drawn up a quotation, you no longer have to see if it corresponds with the regulations, because you know that the figures from BDB correspond with them and are therefore correct. For us, BDB stands for a reliable long-term vision. The data is clear: there is no noise.'



Interview met Groothuisbouw: The value of company-specific data

Willem Flier is technical director at Groothuisbouw in Emmeloord. Flier has been working at the firm since completing his training. A lot has happened in the more than 20 years since then; the company has grown from three employees to more than 100. 'Since 2007, we produce a large part of the elements ourselves, this used to be done externally. We always say: if you can manage the roof of a building, then you can really manage the entire construction. That is the most difficult thing for a contractor to get under control. We now produce everything related to the top floor – roof elements, dormer windows, gutters, loft floors, storey walls – in our own production hall in Emmeloord.'

'The crisis started immediately after the construction of our own production hall, those were exciting years. Yet Groothuisbouw was reasonably stable. In the crisis years too, customers came from all over the country to Emmeloord. This was reassuring, considering a significant investment had been made. In those years, Groothuisbouw made good use of market forces. Thanks to the shrinking market there was simply a lot more on offer than was needed. We sometimes received messages from subcontractors about price increases. Then we wondered: 'What is that based on? Is that a feeling, or is that substantiated?' As we only build modular, detached houses, we use only a select quantity of materials. We did not have much use for standard index figures, they apply to the whole building project. We

'We did not have much use for standard index figures, they apply to the whole building project. We were receiving figures for concrete and steel, while we were using prefab beams. We therefore asked BDB whether they could develop specific index figures for us.'

Groothuisbouw Emmeloord

Groothuisbouw Emmeloord is specialised in the modular construction of detached houses. With modular construction, elements are pre-built in the factory, and then they are transported to the building site for assembly. This means that external factors, such as weather conditions, have very little influence. Potential customers can compose their own home on the Groothuisbouw website.

were receiving figures for concrete and steel, while we were using prefab beams. We therefore asked BDB whether they could develop specific index figures for us.'

'The figures we now receive make it more transparent for us, because they are more company-specific. Now these figures enable us to focus better on individual subcontractors. We also use the BDB calculations as reference material for making honest price agreements with our permanent suppliers. Those agreements are for a year, six months or a quarter. We always try to take a long-term average, otherwise you have constantly fluctuating prices. As a result, we are able to indicate very directly to our customers: you can obtain this house for that amount.'

'As we are still growing, we also hire extra personnel. Groothuisbouw is an interesting party for subcontractors to work with, because we offer certainty and a guarantee for a longer period. Based on all the data that we have available, we are able to define the price for which that needs to be done.'

'The advantage of the BDB data is that we do not need to calculate things ourselves. Neither have we had the feeling yet that things are incorrect. The data appears to be sound. The credibility of these figures is many times greater than it would be if a purchaser were to present them. We simply want to have comprehensive and substantive argumentation. That is what BDB gives us.' •



Interview with Ruimte-OK: A different view on school building costs

Marco van Zandwijk works at Ruimte-OK. The programmes he works on are intended to promote school housing quality. Although the school housing quality is in the societal interest, in practice this is given insufficient priority. Van Zandwijk sketches the sector developments that contribute to this. 'Partly due to the growing market, the sector suffers from old VNG reference values. At the same time, there are a lot of imminent changes: many school buildings are now old and need to be replaced in the short term. Moreover, new buildings must now comply with international climate targets. In the mean time, the decrease in government involvement means that the task of school building has increasingly become the responsibility of the schools and public authorities themselves. To be able to tackle this, a different knowledge level and the correct expertise is required. So a school board can benefit from instruments that enable it to take the right decisions. We developed the School Building fan at the request of the Government Architect. This fan helps to discuss user requirements during a school's construction or refurbishment. The schools were very enthusiastic. The fan suited their knowledge level, gave them inspiration and helped them to pose questions.'

'Together with the sectoral councils in primary and secondary education and the VNG (ed.: Association of Dutch Municipalities), we have further developed the fan into a concrete tool for the programme of requirements: the Quality Framework for Housing. At the request of the VNG, the framework has also been financially audited. We selected BDB, because they use up-to-date construction cost data to provide an independent insight into trends and developments. The VNG had its own reference values for school housing. In practice, you could not build a school based on the existing VNG reference values,

You almost doubt your own credibility: are we not asking too much? The Quality Framework is however not just a wish list.



Ruimte-OK is a social organisation that stands for good quality and sustainable school housing.

let alone a future-proof school. The BDB calculations confirm this. The reason for the difference is that the VNG reference values are indexed annually using an index that was originally not intended for school construction. Neither have these reference values been adjusted for the higher requirements regarding interior climate and sustainability.'

'The financial paragraph as drawn up by the BDB in the Quality Framework initially met with incomprehension. You almost doubt your own credibility: are we not asking too much? The Quality Framework is however not just a wish list, but has an accentuated link with the Building Regulation. A learning environment must comply with that mandatory statutory minimum. In the mean time, an increasing number of tenders confirm the financial calculations in the Quality Framework. You also gradually see the discussion shifting: how can we achieve a particular quality level with the available resources? Opportunities can be found in innovative ways of building or financing. People also increasingly realise that it makes sense to let go of the traditional way of thinking based on investment costs, and to look at the financial burden over the entire period. That is the pain felt by a public authority in its budget, and that is felt by a school in its exploitation. Sometimes it is simply smarter to invest more beforehand. It makes sense to look at these problems from another viewpoint.'

'Ruimte-OK and BDB found each other in the joint ambition to create something that was independent and for which there was a demand in the market. Although the Quality Framework is now used by several public authorities and school boards, we would like to see the framework being used much more frequently. There is also a lot of demand for an explanation about the use of the framework. It is also desirable to update the financial paragraph on a yearly basis. So there is still a lot more work to be done. A recurrent question in this respect is: how can we finance this structurally? The creation of a framework is a success story, but now the implementation of the Quality Framework must be arranged for the future.' •



Interview with AcvZ: The importance of an independent assessment in healthcare

Wim Meijer is deputy chairman at AcvZ. In this role, he is primarily involved with providing general information about building for healthcare. Meijer also advises on concrete projects. In the past years, it was found that a number of healthcare building projects had gone wrong or that they had eventually become too expensive. To avoid a repetition in the future, Meijer argues for more project management by the client and an independent assessment. 'Our experience is that for some clients, building for healthcare is a one-off event. They have no expertise when they start, and once the building has been taken into use, they are no longer there. There is consequently not much knowledge development.'

'In the period of price drops before 2000, it was not such a problem if a manager paid less attention for a project. Everything was resolved in the long run. Often there was still room in the budget for the requirements of medical specialists and for the most recent equipment. In the period from 2000 to 2005, there were significant price increases in the building industry. This meant that contractors' prices for large projects suddenly became some 25% to 30% more than previously budgeted. The threat is there again somewhat, as a lot of capacity has disappeared from the building industry. So when taking decisions in the current growing market, there should be more attention for price developments.'

'The knowledge about projects is now often with building management consultants. However, a manager also has to be in the know. You have to introduce the required knowledge one way or another,

'I notice that in the preparation of projects, calculations are often optimistic and price increases are underestimated.'



The AcvZ Foundation (Consultancy Centre for Healthcare Housing) disseminates knowledge on building for healthcare. The foundation also supports healthcare institutes with concrete projects, for instance with a second opinion or a feasibility study.

because otherwise a client will be no party against the other building parties. Since 2014, we at AcvZ have therefore published the annual Construction Costs Note for healthcare properties. This book is full of information about finance, management and social developments in the health care property sector. It also contains the BDB index, which can be used to correct the original building prices for the current price level. It would have been a lot of work to do it ourselves, so we asked BDB: this was the only party that could do the job.'

'Daily building practice is really a permanent negotiation process about pluses and minuses. Approval and rejection, adding and deleting, it all goes on throughout the whole process. It is essential to use the current price level, and therefore an index. During project preparation, I notice that calculations are often optimistic and price increases are underestimated. I always advise having the specifications checked by an external party before sending them to the contractor. You cannot simply say: "I will notice it on delivery. If it is not in order, I will refuse it." You cannot return a building like that to the factory.'

'My advice for large building projects above 25 million is to reintroduce supervision. If such a project disappoints, then a lot of damage has been done. An option is a 'building commissioning': a team that takes care of the administrative supervision of the building work and has daily supervision on the building site. It has the benefit that you can avoid conflicts in good time and that you have an independent umpire when there is a conflict in interests. In the design phase for instance, an architect sometimes leaves too little room for an installer. In practice, this has terminated projects: the project turned out to be infeasible and the parties could not reach a mutual solution. Building commissioning is relatively rare now, but I for one support the idea. Sometimes it is simply very necessary to check whether the building work delivers the agreed performance. It may cost 1% more, but it does give you an extra pair of eyes.' •




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Personal, complete and customised!