**你所不知道的中国——东北**

**【总导视】**

**【Finn Aberdein出镜】中国正在发生着变化。过去10年里，中国现代生活的方方面面，包括经济、科技、交通和文化等都发生了非常显著的变化。**

**【Jing Lusi配音】在这个系列节目中，我们将去探索世界上最丰富多彩、最令人惊叹的一个国家。**

**【配音】从山峦叠嶂的多彩西南，**

**【Cameron Andersen配音】到冰封的东北大地。从辽阔的大漠，到繁华的都市。**

**【Jason Lai配音】我们将看到中国各地的人们，如何在保留传统的同时，应对未来的挑战。**

**【Finn Aberdein配音】欢迎收看《你所不知道的中国》。**

**【分集导视】**

**【Jing Lusi配音】在这集节目中，我们来到中国的东北地区。这里是这个国家最遥远、也最神秘的地区之一。Jason将会尝试在零度以下的气温里酿酒。**

**【Jason Lai出镜】空气中弥漫着紧张的气氛。**

**【Jing Lusi配音】Cameron将探索汽车测试的未来。**

**【Cameron Andersen 出镜】哇，太棒了！**

**【Jing Lusi配音】以及让这一地区闻名全球的地下珍宝。**

**【Cameron Andersen 出镜】我有生以来从未见过这样的景象。**

**【正片】**

**【配音】东北地区是中国重要的生产基地，是重工业和粮食生产的中心。这里的冬天也冷得出名，有的地方全年积雪时间甚至可达7个月之久。**

**【配音】这个冰雪覆盖的小村子位于牡丹江市，有“中国雪乡”之称。由于它地处中国最北端的（黑龙江）省，看上去不大像是个你会想来度假的地方，通往这里的道路都是路面结冰的山路。**

**【配音】但游客们还是纷至沓来，因为迎接他们的是一个中国独一无二的村落。**

**【配音】过去10年中，雪乡被打造成冰雪仙境，成为国内旅游的一个胜地。**

**【Jing Lusi出镜】每年都有超过60万游客来这里乘雪橇，进行雪地越野，品尝当地美食。我喜欢这个，风干的水果。硬得像石头，咱们来尝尝。这种天气里我正需要吃这种东西：冻果子。**

**【配音】但在过去，雪乡并没有这么受欢迎。**

**【配音】游客们到来前，这个偏远的村落是伐木工业的一部分。但随着木材贸易的减少，这里人们的生计变得困难。**

**【配音】1986年，摄影师王福春到这个白雪皑皑的村子采风时，这儿正面临困境。**

**【现场】Jing Lusi和王福春（摄影师）**

**（我）从来没看到这么大的雪**

**让我非常非常地震撼 感动**

**【配音】王福春所拍摄的这组雪乡照片向人们展现了一个神奇的冰雪世界，照片多次获奖，并被刊登在全国各地的杂志上。**

**【配音】其中一张照片，更是吸引了大家的注意。一位老奶奶抱着一个孩子，站在被大雪覆盖的房子前。**

**【配音】她就是这个小女孩，名叫刘媛媛，她依然在这里生活和工作。自王福春拍了那张著名的照片后，她就再也没见过他。**

**【现场】Jing Lusi和王福春（摄影师）**

**我们到了**

**那好 走**

**这是她的家**

**我都替他感到激动**

**我想这会是很特别的时刻**

**【现场】王福春和刘媛媛**

**您好 王老师**

**你好**

**终于见着您了**

**特别感谢**

**真的 30多年了**

**30年**

**这是唯一我跟我奶奶的照片**

**【配音】由于媛媛的父母工作繁忙，媛媛由奶奶照看长大，奶奶已在2005年去世了。**

**【现场】刘媛媛和王福春**

**我两岁我奶奶给我看到大**

**从我记忆里**

**对我最珍爱 最疼我的就是我奶奶了**

**没有想到 当时就是顺手拍的**

**当年您要不出这么多作品的话**

**也没有人知道这个小地方**

**【配音】如果你知道去哪儿找的话，这一带还是能发现一些过去的痕迹。离雪乡仅仅半小时车程，有个地方叫永安，这里有大约150位村民。**

**【配音】这是个传统村落，雪乡如果没有被热切的游客们所发现，也还会是这个样子。**

**【配音】永安大部分村民都曾从事林业工作，但为了避免森林覆盖减少，2014年政府禁止了天然林商业性采伐，于是，很多曾经的伐木工变成了护林员。今天，我将和蒋传宾、王在顺一起实地做个勘察，为春季植树做好准备。但通往勘察点的路并不像想象中那么好走。**

**【现场】Jing Lusi和蒋传宾、王在顺**

**别走得太快了**

**你们怎么走啊**

**你走不了啊**

**她的鞋滑 我跟你说**

**【配音】终于走到了。先用绳子把这块区域围起来，以便估算里面的树。**

**【现场】**

**对 你数吧**

**一 二 哪里**

**【配音】要是树木数量不够，就会再种一些。森林对于黑龙江的环境保护来说至关重要，它能防止当地农田的水土流失。**

**【现场】Jing Lusi和蒋传宾**

**所以（树）对这个环境还是很重要的事情**

**对**

**要是都（砍）放光了以后 风就随便走了**

**【配音】政府努力将伐木工转变成护林员，村民也感到了禁伐令带来的影响。几十年前，张淑珍和张廷祥来到永安，从事林业工作。**

**【现场】张淑珍和Jing Lusi**

**（当时）都是老树林子**

**那时候乍（刚）来都住大棚**

**哪有房子**

**一家整（搭）个大棚**

**就上面一个小板就将就点**

**以后再盖的新房**

**你们觉得禁止采伐对这里有什么影响吗**

**冬天要是没活**

**都上双峰（雪乡）打工去了**

**【配音】和很多家庭一样，张家的几个孩子也离开了这里。但现在看来，旅游业可能会带来新的希望。**

**【现场】张淑珍和张廷祥**

**雪乡现在行了**

**家家都是那样 家家都招游客**

**哪有不招的**

**我们这有的妇女啥的 都上双峰（雪乡）当服务员**

**对 都当服务员去了**

**【Jing Lusi出镜】刚来到雪乡时，看到旅游业如此兴旺，我本以为这些商业因素可能会破坏本地传统。但与这些人交流后我发现，很明显，游客们的到来给雪乡及周边地区带来了生机。**

**【配音】未来的挑战在于如何通过发展旅游业改善人们的生活，同时又能保留传统的生活方式。**

**【配音】在离白雪皑皑的黑龙江森林很远处，有另一个重要地方，这里因其地下埋藏的（珍宝）而闻名。**

**【配音】这个精彩的故事，始于辽宁省四合屯村。**

**【Cameron Andersen出镜】这是个很普通的村子，很小，仅有大约200位村民住在这里。大部分是农民，靠种地为生。**

**【配音】杨树海自打出生后就住在这里。20世纪90年代中期，他无意中有了一个惊人的发现。**

**【现场】杨树海和Cameron Andersen**

**小时候也就是上山去玩去**

**捡一些小鱼小虾的（化石）**

**挖挖就见到骨头了**

**看到骨头我就寻思 这是什么东西**

**发现了什么**

**就这个恐龙化石**

**就是慢慢慢慢一点一点起 挖**

**用铲刀铲 越挖越大**

**最后将近一米左右 出来的东西**

**经过科学家（勘测）说是无价之宝**

**感觉很好**

**【配音】但这只是冰山一角。中国目前已为科学界提供了170多种恐龙化石，约占全球已知恐龙物种总量的六分之一，而辽宁则是中国化石的重要产地。**

**【Cameron Andersen出镜】不仅动物会变成化石，远古的森林也会石化。但在中国的这个地区，发现如此多的化石并非偶然。科学家们认为1亿多年前，这里有着完全合适的环境条件，足以形成这样一个令人惊叹的化石场。**

**【配音】持续的火山爆发造成了恐龙的死亡，它们很快被掩埋在火山灰中。火山灰将恐龙尸体与氧气隔绝开来，因此这些尸体没有腐烂，成了保存完好的化石。朝阳鸟化石国家地质公园的宋爽告诉我，这里的火山灰很特别。**

**【现场】Cameron Andersen和宋爽**

**当时的火山灰特别细**

**它的颗粒特别小**

**可以看到什么细节**

**每一个化石都保存得特别精美**

**我们可以看到**

**甚至有软组织**

**就像高清电视一样**

**【配音】每发现一套新的骨骼化石，都要费很大功夫清理。用一根高频震动的细针除去化石上的泥土，慢慢地把每块化石从火山灰形成的泥土“棺椁”中清理出来。随着骨架越积越多，你就需要一个很大的“柜子”来陈列。**

**【现场】Cameron Andersen和吕君昌**

**我没想到有这么多**

**我有生以来从未见过这样的景象**

**【配音】我和中国地质科学院吕君昌教授一起来到了锦州的一家化石陈列中心。吕教授是中国著名的恐龙化石专家。**

**【现场】吕君昌和Cameron Andersen**

**这个博物馆里面有3万件标本**

**觉得它要活起来**

**还是要对它温柔一点**

**【配音】在中国该地区出土的几千件化石中，有一件改变了古生物学研究的进程，也让辽宁成为全球的焦点。这种长着羽毛的恐龙，被命名为“中华龙鸟”。今天，我有幸看到了这种非凡生物的样本。**

**【现场】吕君昌和Cameron Andersen**

**一条一条的 原始羽毛**

**很柔的**

**对 很柔软**

**尾巴还有 这长长的尾巴**

**【配音】这是进化链上遗失的关键一环。自从被发现后，更多长羽毛的恐龙化石便从这里出土。**

**【吕君昌旁白】具有爬行动物特征，它也具有鸟的一些原始特征。鸟由恐龙演化过来，这就是证据。**

**【配音】这些激动人心的发现，吸引着世界各地的科学家来这研究恐龙生长羽毛的原因，乃至它们最终飞向天空的奥秘。**

**下节预告**

**【配音】这里是东北的辽宁省，这儿的冬天异常寒冷。在数月时间里，这里几乎没什么作物生长。**

**【配音】除了一种农产品，人们通常会把它与地中海联系在一起，那就是葡萄。这些葡萄被用来制作一种很特别的东西——冰酒。**

**【Jason Lai出镜】冰酒由冰冻的葡萄酿制而成。冰冻过程浓缩了葡萄中的有机酸和糖分，这使得酿成的葡萄酒极其甜美。即便眼下葡萄还没有被采摘，你已经能品尝出不同来。冰葡萄的味道浓郁得多，有点像葡萄干。**

**【配音】这里夏季温暖但冬季严寒，具备酿造冰酒的绝佳条件。条件如此之完美，以至于目前全球三分之一的冰酒都产自这里。**

**【配音】葡萄采摘也有严格的规定。根据相关国际标准，葡萄采摘的温度至少要在零下8摄氏度，并持续24小时。**

**【配音】在等待采摘的过程中，葡萄可能会腐烂，或者被霉菌侵蚀。**

**【配音】为避免出现这种状况，人们必须做好准备，一旦时机成熟就立即采摘。**

**【配音】天亮时，一切准备就绪。**

**【Jason出镜】现在是零下10摄氏度，我们可以出发了。这些是酿酒厂提供的采摘筐，要把它们都装满。村民们都来帮忙，空气中弥漫着一种紧张的气氛。**

**【现场】Jason Lai**

**需要帮忙吗**

**【配音】我加入了采摘大军。这比看上去要复杂得多，农民丛佩富教我怎么摘葡萄。**

**【现场】Jason Lai和丛佩富**

**这里吗 看这串漂亮的冻葡萄**

**这得慢慢拿 要不果粒就掉了**

**所以一直要手工采摘吗**

**冬天（葡萄）比较金贵**

**然后用机器剪 就浪费得特别多**

**是这样吗**

**对的**

**【现场】Jason Lai和村民**

**谁剪得最多 在比赛吗**

**她剪得多**

**她剪得多**

**【配音】这里的葡萄是一种叫做“威代尔”的品种，抗寒力强。**

**【配音】采摘下来的葡萄会被立即送往5公里外的（辽宁）张裕黄金冰谷冰酒酒庄。**

**【配音】这个中国最大的冰酒生产商是一个欧式酒庄，可以媲美波尔多。**

**【配音】在收获季节，这里会24小时不间断地忙碌。**

**【配音】大功率的压榨机将葡萄压榨出汁，冰葡萄的出汁率只有五分之一。**

**【配音】压榨出的葡萄汁被倒进巨大的发酵罐，加入酵母。**

**【配音】接下来要做的就是等待。**

**【Jason Lai出镜】两年以后，酒可以装瓶了。每一瓶冰酒都含有2.5千克葡萄压榨出的葡萄汁，这个数字真令人难以置信。随着冰酒产业越来越国际化，这些佳酿将为中国乃至全球更多的餐桌增光添彩。**

**【现场】Jason Lai和张卫强**

**忙完一天的采摘 我需要喝一杯**

**我和张裕酒庄的技术经理张先生一起**

**来到了酒吧**

**【现场】Jason Lai和辽宁张裕黄金冰谷冰酒酒庄总工程师 张卫强**

**我都等不及了**

**哇 真的很棒**

**甜 又不是太甜**

**真的很提神**

**我们的冰酒的话**

**可以把它当（称）作“天使的眼泪”**

**为此干杯**

**干杯**

**【配音】在中国最北端的一个地方有一项非常特殊的产业，同样依赖于这里严寒的天气。人们来到黑龙江省北部的黑河市，如果以为自己已经越过边境到达俄罗斯，也是可以理解的。**

**【配音】黑河就位于中俄边境，这里到处都能看到俄罗斯的印记。**

**【Cameron Andersen出镜】**

**想想真的很奇妙**

**我现在站在中国境内**

**那边就是俄罗斯**

**坐5分钟轮渡就能过去**

**或者在隆冬季节也可坐巴士从冰上开过去**

**【配音】正是这条冰封的大河和极寒天气，把全球各地的汽车都吸引到了黑河，不过它们都披着伪装。**

**【配音】这些看起来奇奇怪怪的车辆，其实是各大汽车生产商的最新款样车。这辆可能是宝马，而这辆可能是奔驰。**

**【配音】它们尚未上市，因此必须包裹得严严实实。所以，当地人把它们叫做“斑马车”。**

**【Cameron Andersen出镜】一款新车的研发**

**需要耗费成百上千万甚至数十亿美元**

**你也就能理解**

**为何厂商们都不想让竞争对手**

**看到自己的最新款**

**【配音】这些神秘的新款车都驶向同一个地方，城外一个名叫红河谷的试车基地。在这里，车辆们将接受严格的测试，检验它们在极寒环境下的性能。**

**【配音】这是地球上最严寒的地区之一，这里10%的测试车是进口车。**

**【配音】为了保护商业机密，试车基地一直戒备森严，而我们成了首家被允许进入的摄制组。**

**【配音】避开视线，卸下“面具”，一切变得十分有趣。今天的主角是来自中国汽车巨头北汽集团的最新款越野车——BJ20，江苏生产，车型由某种军用车设计演变而来。**

**【配音】我见到了首席工程师耿靖。**

**【现场】Cameron Andersen和耿靖**

**我跟这个车已经接触两年了**

**你对这个车的感情肯定很深的吧**

**我感觉（我跟）这个车就像爸爸和儿子的感觉**

**对这个车我们是非常用心 也非常“狠”**

**【配音】这辆车已经通过了一系列测试：在海南进行热带耐久性测试，在西藏进行高原测试，在新疆进行高温和尘土测试。**

**【配音】现在是最后一关，寒地测试，从基础测试开始。**

**【现场】**

**我们要测试发动机冷启动**

**怎么测试呢**

**把车放在这儿一个晚上**

**明天早上再看它能不能正常运转**

**【配音】夜间温度低至零下35摄氏度，这对车辆的很多系统（部件）都是严峻挑战，尤其是对电池而言。在冰面上停放一夜之后，如果它还能就地启动，那它在任何地方都能启动了。**

**【现场】**

**寒冷温度下电池会受什么影响**

**电池就像我们手机电池一样**

**在低温下电压会明显降低**

**如果低到一定程度的话**

**它就不能再启动发动机了**

**（我们需要测量）蓄电池的电压**

**现在电压是否正常**

**电压12.8（伏特）**

**正常的**

**可以的**

**可以的**

**我们需要在10之秒内将发动机启动**

**这是我们的最低要求**

**【配音】耿靖希望车辆强大的电子启动能够应付严寒天气。**

**【现场】**

**咱们启动一下发动机吧**

**关键时刻**

**恭喜 刚才多快啊**

**2.41秒**

**不错**

**【配音】在这里的测试中，有三分之二的项目专门检测车辆在冰雪车道上的行驶性能。**

**【配音】杨慧是在这里工作的300多名专业试车手之一。过去10年中，杨慧测试了70种样车。**

**【配音】今天我们将一起测试BJ20的电子稳定系统，这一系统将防止车辆道路侧滑。**

**【现场】**

**把紧这儿 所以不要害怕啊**

**我不知道 好 走**

**东北的女孩子喜欢骑马 也喜欢车**

**像风一样的这个速度**

**所以就很喜欢开车 非常喜欢**

**跟我的性格又息息相关**

**【配音】车上的电子控制系统监测着杨慧的操作，并与车辆的反应进行比对。如果驾驶不当，车辆会自动接管。**

**【现场】**

**来了 开到冰上了**

**【配音】对所有汽车来说，横跨两种不同路面行驶都是一项最大的挑战，它意味着车子两侧的轮胎抓地不平衡。**

**【现场】**

**最难的是我们现在开始的这个冰雪对开**

**一半在冰上 一半在雪原上**

**这个是最难操控**

**【配音】为修正这一情况，车辆稳定系统要对每个车轮分配不同作用力，防止车辆打滑。**

**【现场】**

**我们再回来**

**你完全控制住了**

**对的**

**如果我们操控不好的话**

**我们的车很容易侧翻出去**

**哇 太棒了**

**【配音】全球汽车生产商都被这里的冰冻江面所吸引。**

**【现场】她很厉害**

**【配音】而这里也逐渐成为世界级的试车场地。**

**【配音】在中国东北居住确实富有挑战性，但让人称奇的是当地人成功地将严寒的气候转化成了独特的资源。**

**下期预告**

**Tales From Modern China – North East Region**

**PTC FINN:**

**China is changing. In the last ten years it’s seen the most extraordinary transformation in every aspect of modern life ,its economy, its technology, its transport, and its culture.**

**VO JING:**

**In this series we’ll be exploring one of the most varied and surprising countries in the world.**

**VO JING**

**From the remote mountains and diversity of the South West.**

**VO CAMERON:**

**To the frozen lands of the North East, and from huge deserts to teeming cities.**

**VO JASON:**

**We’ll see how people all over China are facing the challenges of the future,whilst preserving the traditions of their past.**

**VO FINN:**

**Welcome to Tales from Modern China!**

**VO JING:**

**In this programme we’re in China’s North East region, one of the most remote and mysterious parts of the country.**

**Jason tries his hand at making wine in sub-zero temperatures.**

**Jason:**

**There's a real sense of urgency in the air.**

**VO JING:**

**Cameron explores the future of car testing,**

**Woah! Hey that was nice!**

**VO JING:**

**and the treasures below the surface that have made this area world famous.**

**Cameron:**

**I’ve never seen anything like this in my life.**

**VO Jing Lusi:**

**China’s North East region is the country’s production powerhouse, a hub for heavy industry and grain farming. It’s also famous for its extremely cold winters. Some places are covered in snow for up to seven months of the year.**

**VO Jing Lusi:**

**The tiny, frozen town of Mudanjiang, nicknamed Snow Town, might seem like an unlikely place**

**to visit for your holiday. Located in the most northerly province in China, it’s only accessible by icy mountain roads.**

**VO Jing Lusi:**

**But visitors come in their droves, because what greets them is a village like no other in China. In the past decade Snow Town has been reinvented as a winter wonderland…a key destination for the domestic tourism industry.**

**Over 600,000 tourists come here every year to experience sleigh rides, snow treks and local delicacies.**

**Jing Lusi:**

**I love it, blow drying fruit. Rock solid, let’s have a go. Mm, that’s exactly what I need in this weather, frozen fruit.**

**VO Jing Lusi:**

**But Snow Town wasn’t always this popular. Before the tourists arrived, this remote outpost was part of the logging industry. But as trade slowed, people struggled to make a living. The town was facing hard times , when in 1986 photographer Wang Fuchun came to explore this snow-covered landscape.**

**Wang Fuchun:**

**I had never seen such heavy snow.**

**I was deeply surprised and moved.**

**VO Jing Lusi:**

**Wang’s photos of this strange, frozen world won competitions and appeared in magazines across the nation. One image in particular captured the public’s imagination – a grandmother holding a small child in front of a house totally immersed in snow.**

**VO Jing Lusi**

**The little girl, Liu Yuanyuan, still lives and works here. She hasn’t seen Wang Fuchun since the day he took that famous photo.**

**Jing Lusi:**

**Here we are, this is her home.**

**Jing Lusi**

**I am so excited for him, I think this is going to be quite a special moment.**

**Yuanyuan:**

**Hello.**

**Wang Fuchun:**

**Hello.**

**Yuanyuan:**

**At last I get to meet you. Thank you so much. More than thirty years.**

**Wang Fuchun:**

**30 years.**

**Yuanyuan:**

**This is the only photo I have of me and my grandma.**

**VO Jing Lusi:**

**Yuanyuan’s grandmother, who died in 2005, looked after her growing up, while her parents worked long hours.**

**Yuanyuan:**

**I was brought up by my grandma from when I was two years old. In my memory she's the one who gave me the most love.**

**Wang Fuchun:**

**I never expected that. I just took the photo by chance.**

**Yuanyuan:**

**If it weren’t for your photos, no-one would even know our little village.**

**VO Jing Lusi:**

**A glimpse of the old times does still exist in this region, if you know where to find it.**

**Jing Lusi PTC:**

**Only half an hour away, 150 residents call the town of Yong’an home. This traditional settlement is similar to what Snow Town would have looked like before it was discovered by eager visitors.**

**VO Jing Lusi:**

**Most of the people in Yong’an worked in the timber industry, but to avoid deforestation, in 2014 the government banned commercial logging in natural forests. So many of the former loggers now have jobs in conservation. Today, I’m doing a survey with Jiang Chuanbin and Wang Zaishun so they can plan their spring tree planting – but getting to the survey site isn’t as easy as I’d imagined.**

**Jiang Chuanbin:**

**Don’t walk so fast.**

**Jing Lusi:**

**How are you managing this?**

**Jiang Chuanbin:**

**How are you NOT managing this?**

**It’s because her shoes are slippery.**

**VO Jing Lusi:**

**Finally back on firm ground, the areas are carefully plotted out with string so the trees inside can be assessed.**

**Jiang Chuanbin:**

**Here you go, you can count now.**

**Jing Lusi:**

**One, two, where next?**

**VO Jing Lusi:**

**If there aren’t enough trees, more will be planted. The forests of Heilongjiang are a crucial part of the environment, protecting the soil in local farmlands from erosion.**

**Jing Lusi:**

**So it has a big impact on the environment?**

**Jiang Chuanbin:**

**Exactly. If there are no trees, the wind will run riot.**

**VO Jing Lusi:**

**Despite attempts to move loggers into conservation roles, the villages in the region are feeling the effects of the ban. Zhang Shuzhen and Zhang Tingxiang came to Yong’an decades ago to work in the timber industry.**

**Zhang Shuzhen:**

**This was all just forest. There were no houses so we had to live in a shed with a board for a roof. We just had to make do.**

**Jing Lusi:**

**What’s been the impact of the logging ban on your village?**

**Zhang Shuzhen:**

**People have had to go further afield to find work.**

**VO Jing Lusi:**

**Like many, the Zhangs have seen their children leave the area, but now it looks like tourism may offer new hope.**

**Zhang Shuzhen:**

**Snow Town has prospered. Every family is the same, everyone works in tourism. There’s just no family that’s not running that kind of business.**

**Zhang Tingxiang:**

**Women from here go to Snow Town to work as waitresses.**

**Zhang Shuzhen:**

**Yes,waitresses.**

**Jing Lusi PTC:**

**When I first came to Snow Town and I saw all the tourism, could have assumed that the commercial aspect of it has perhaps trodden on the toes of tradition. But what’s apparent, having spoken to these guys, is that all the tourists flocking here has given Snow Town and its surrounding areas an absolute lifeline.**

**VO Jing Lusi:**

**The challenge for the future will be preserving this traditional way of life while developing the tourism which will help it survive.**

**VO CAMERON:**

**Far away from the snowy forests of Heilongjiang lies another important landscape – but here it’s what lies hidden beneath the surface that’s put this corner of China on the map. This extraordinary story starts in the province of Liaoning; in the small village of Sihetun.**

**CAMERON PTC:**

**It’s a pretty normal village – it’s small, only around 200 people live here and most of them are farmers, making a living off the land.**

**VO CAMERON:**

**Yang Shuhai has lived in the area all his life. But in the mid-1990s he stumbled across an astounding discovery.**

**Yang Shuhai:**

**When I was young, we’d go up the hill and find small fish and shrimp fossils. While we were digging we saw some bones. At first we didn’t know what it was.**

**Cameron:**

**What did you find?**

**Yang Shuhai:**

**The fossil of a dinosaur. We dug it out little by little. The further we dug, the bigger it got. When we finally got it out it was a metre long. When the scientists had examined it, they told me it was a priceless treasure. I felt great.**

**VO CAMERON:**

**But this was just the tip of the iceberg. China’s fossil fields have now provided science with over 170 different types of dinosaur, that’s about a sixth of the world’s known dinosaur species – and Liaoning is the fossil epicenter. It wasn’t just animals that were turned to stone. These ancient forests were petrified too. But it’s not a coincidence that so many fossils have been found in this corner of China.**

**CAMERON PTC:**

**Scientists believe that this part of the world possessed exactly the right environmental conditions over 100 million years ago to create this astonishing fossil graveyard.**

**VO CAMERON:**

**Continual volcanic eruptions killed the dinosaurs here and they were swiftly buried in ash. This sealed their remains from oxygen, preventing decomposition and preserving them as fossils.**

**VO CAMERON**

**But as Song Shuang from the Bird and Fossil GeoPark in Chaoyang tells me, there was something special about this particular volcanic ash.**

**Song Shuang:**

**This volcanic ash was particularly fine and the particles were very small.**

**Cameron:**

**What details can we see?**

**Song Shuang:**

**Every fossil is exquisitely preserved. We can even see the soft tissues. Just like HD TV.**

**VO CAMERON:**

**As each new set of fossilised bones is discovered it must be painstakingly cleaned. A fine needle, vibrating at a high frequency, is used to blast the mud away from the fossil, slowly releasing each bone from its volcanic ash coffin.**

**VO CAMERON:**

**And when you’ve got a lot of skeletons ...you need a really big cupboard.**

**Cameron:**

**Oh my goodness, look at them all！I’ve never seen anything like this in my life.**

**VO:**

**I’ve come to one of Jinzhou’s fossil storage centres with Professor Lü Junchang from the Chinese Academy of Geological Sciences, one of China’s leading dinosaur fossil experts.**

**Prof Lü:**

**There are up to 30,000 specimens here in the museum.**

**Cameron:**

**They feel as if they might come back to life. I should treat them gently.**

**VO CAMERON:**

**Amongst the thousands of finds from this part of China, one changed the course of palaeontology and shone a global spotlight on Liaoning; a feathered dinosaur named sinosauropteryx, or “Chinese reptile wing” .Today I’m lucky enough to see an example of this extraordinary creature.**

**Prof Lü:**

**Here you can see a primitive feather.**

**Cameron:**

**Very soft.**

**Prof Lü:**

**Yes, very soft and there are feathers on the tail.**

**VO CAMERON:**

**Since the discovery of this crucial missing evolutionary link, many more feathered dinosaurs have been unearthed here.**

**Prof Lü:**

**This is a very important finding because you can see features of both reptiles and primitive birds. This is direct evidence that birds originated from dinosaurs.**

**VO CAMERON:**

**These breathtaking finds have brought scientists from across the world to study why dinosaurs had feathers, and even how they eventually took to the air.**

**VO CAMERON:**

**Coming up next on Tales From Modern China…Jason tries his hand at frozen farming…**

**Jason:**

**Good? good. Yeah, yeah.**

**VO CAMERON:**

**…and I take to the ice on the biggest test track in Asia.**

**Cameron:**

**Moment of truth!**

**END PART ONE**

**PART TWO**

**VO JASON:**

**Here in north eastern Liaoning province, winter can be harsh. For months almost nothing grows on these frozen plains. Except for one surprising product–more commonly associated with the Mediterranean.–Grapes. But these grapes make something special. Icewine.**

**JASON PTC:**

**Icewine is made from frozen grapes and the freezing process concentrates the acids and the sugars in the fruit giving the wine an intensely sweet flavour. So, even in this raw state… you can really taste the difference, it's so much stronger. It tastes like a raisin.**

**VO JASON:**

**Here summers are warm but the winters are bitter - perfect conditions for making icewine. So perfect in fact, that a third of the world’s icewine is now produced right here. Strict rules also surround the harvest. International standards mean that the temperature must be at least minus 8 degrees centigrade for 24 hours. And while they wait, the grapes could go rotten, or be invaded by fungus. So, to avoid disaster they need to be ready to harvest as soon as the conditions are right.**

**VO JASON:**

**At daybreak it’s all systems go!**

**JASON PTC:**

**It’s minus ten so we're good to go. Now these are the crates, they're from the winery and they need filling up. The villagers are all here to help and there's a real sense of urgency in the air.**

**Jason:**

**Can I help? Can I help?**

**VO JASON:**

**I’m joining an army of pickers. And it’s more complicated than it looks as farmer Cong Peifu shows me.**

**Jason:**

**Here? Look at that beautiful bunch of frozen grapes.**

**Cong:**

**Do it slowly or they’ll all fall on the ground.**

**Jason:**

**So you always need to pick them by hand?**

**Cong:**

**In the winter they’re fragile. If you used a machine, you would waste too many.**

**Jason:**

**Good? Good?**

**Cong:**

**Yeah, yeah.**

**Jason:**

**Who’s been picking the most, is it a competition?**

**Famer 1:**

**She cuts the most.**

**Farmer 2:**

**No, she cuts the most.**

**VO JASON:**

**The grapes grown here are a variety called Vidal, chosen for their hardy properties.**

**VO JASON:**

**As soon as the grapes are picked they are transported 5 km here – to the Chateau Changyu Icewine Company, the largest producer in China. This is a European style chateau that wouldn’t look out of place in Bordeaux.**

**VO JASON**

**During the harvest this plant works 24 hours a day. High powered presses squeeze out the juice, which is only a fifth of that produced by fresh grapes,and it’s put into gigantic fermentation tanks where yeast is added. And then all that’s left to do is wait.**

**JASON PTC:**

**Two years after the grapes were picked; and the wine is ready to be bottled. Now each one of these bottles contains the juice of a staggering 2.5 kg of grapes .**

**VO JASON:**

**These bottles will grace connoisseurs’ dinner tables across China and increasingly across the world in this evermore international industry.**

**VO JASON**

**After my hard day harvesting, I’m more than ready for a glass of wine. So I join Mr Zhang, the technical manager of the plantation, in the bar.**

**Jason:**

**I can’t wait! Oh that’s really good! It’s sweet but not too sweet and it’s really quite refreshing, that is.**

**Mr Zhang:**

**We call it “the tears of an angel”.**

**Jason**

**I’ll toast to that!**

**Mr Zhang:**

**Cheers! Cheers!**

**VO CAMERON:**

**In one of the most northerly points in China, an industry of an entirely different kind is just as reliant on the cold weather.**

**VO CAMERON**

**Visitors to the town of Heihe in the far north of Heilongjiang province would be forgiven for thinking they’d already crossed into Russia. Located right on the border, there are Russian influences everywhere you look.**

**CAMERON PTC:**

**Right now I’m standing in China, but it’s extraordinary to think that Russia is just over there, only a five minute ferry ride across the river. Or, if you're in the middle of winter, a bus ride across the ice.**

**VO CAMERON:**

**It’s this very frozen river - along with the town’s frozen climate – that brings cars from all over the world to Heihe,in disguise.**

**VO CAMERON**

**These strange looking vehicles are actually the latest prototypes from all the leading manufacturers. This one could be a BMW, and this one could be a Mercedes. They’re not on the market yet and that’s why they’re kept very much under wraps.**

**CAMERON PTC:**

**Apparently the locals call them “zebra cars”. But when you consider that to develop a new car costs millions if not billions of dollars, you kind of understand why these car companies would want to keep their rivals’ beady eyes off their newest assets.**

**VO CAMERON:**

**And these clandestine prototypes are heading to one place, a test base just outside the city called Red Valley River. Here they’ll be carefully analysed to see how they function in an extreme cold environment, one of the harshest on the planet. Ten per cent of the cars being tested here are foreign. Due to trade secrets this place is often heavily guarded, and we’re the first film crew to be granted access to this secret location.**

**VO CAMERON**

**And away from prying eyes, things really get interesting when the mask comes off. The car that’s in the spotlight today is the latest SUV from Chinese car giant BAIC. Named the BJ20, it’s made in Jiangsu Province, and evolved from a design used by the military. I’m meeting Chief Engineer, Geng Jing Lusi.**

**Geng Jing Lusi:**

**I’ve been working on this car for two years.**

**Cameron:**

**So you must have developed strong feelings for it?**

**Geng Jing Lusi:**

**It’s like a father-son relationship. We really care about it, but we need to be firm with it.**

**VO CAMERON:**

**This car has already been put through a raft of tests –it’s been to Hainan Island for tropical endurance, Tibet for altitude, and Xinjiang Province for heat and dust. And now the final hurdle - testing in the cold - starting with the basics.**

**Geng Jing Lusi:**

**We’re doing an engine cold-start test.**

**Cameron:**

**How do we do that?**

**Geng Jing Lusi:**

**We leave the car out here all night, and early next morning we see if it will start properly.**

**VO CAMERON:**

**With overnight temperatures as low as minus 35 degrees(centigrade), this is a serious challenge for many of the car’s systems, especially the battery. After a night on the ice, if it starts here, it will start anywhere.**

**Cameron:**

**How does cold weather affect the battery?**

**Geng Jing Lusi:**

**Like the battery in your cell phone, the voltage drops, and below a certain level the engine won’t start.Is the voltage ok?**

**Man:**

**The voltage is 12.8.**

**Cameron:**

**OK. Is that good?**

**Geng Jing Lusi:**

**Yes, it’s good**

**The engine needs to start within in ten seconds, that’s a basic requirement.**

**VO CAMERON:**

**Geng’s hoping the car’s powerful electronic starter motor will cope with the extreme cold.**

**Geng Jing Lusi:**

**Okay, let’s start the engine.**

**Cameron:**

**Moment of truth.**

**Congratulations. How long did it take?**

**Woman:**

**2.41 seconds.**

**Cameron:**

**Nice.**

**VO CAMERON:**

**Two thirds of the tests here specifically look at how the car drives on the snow and ice tracks created on the frozen river. Yang Hui is one of the 300 professional test drivers working at the site. Over the past decade she’s test driven 70 different prototypes. Today we’re going for a spin to test the BJ20’s Electronic Stability Programme, the systems that help stop the car sliding off the road.**

**Yang Hui:**

**Please hold tight. Don’t be afraid.**

**Cameron:**

**I’m not sure about this! Oh alright, let’s go!**

**Yang Hui:**

**Women from northeast China love riding horses and driving cars. Speed is like the wind. The job suits my character.**

**VO CAMERON:**

**A central computer monitors Yang’s driving and compares it to how the car is responding, if she gets in trouble the car will take over.**

**Cameron:**

**Here we go, on the ice! Oh!**

**VO CAMERON:**

**One of the biggest challenges for any car is straddling two different road surfaces, meaning the tyres on each side of the car have an uneven grip.**

**Yang Hui:**

**The most difficult thing is to drive simultaneously half on ice, half on snow. That’s the most difficult.**

**VO CAMERON:**

**To compensate, the car’s stability systems vary the power delivered to each wheel, which prevents the car from skidding.**

**Yang Hui:**

**We come back again!**

**Cameron:**

**You are in complete control?**

**Yang Hui:**

**Yes. If we lose control of the car, it’s likely to roll over!**

**Cameron:**

**Whoa! Hey, that was nice!**

**VO CAMERON:**

**Car manufacturers from all over the globe are drawn to this remote frozen river,**

**Cameron:**

**She’s good.**

**VO CAMERON**

**transformed into a world class test track. North East China is definitely a challenging place to live, but it’s striking how the people here have managed to adapt this harshest of climates into a unique resource.**

**VO CAMERON:**

**Next time we’re in China’s sophisticated east, home to the biggest online shopping event in the world, and the fastest super computer of all time.**